POP UP®

Operators Manual

PUSH6
PUSH8
PUSH10

Serial number 000000 and after

CE

Part Number 0120843
September 2010

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EC DECLARATION OF CONFORMITY FOR MACHINERY

MACHINERY:

Powered Aerial Platform known as:

Type: Pop Up PUSH8

Serial Number: PUSH8-04-xxxxxx

The machine specified above conforms to the following provisions:
Machinery directive 2006/42/EC (using document **EC Community Legislation on Machinery** and taking guidance from EN280:2001 + Amendment A2:2009)
Council Directive 2004/108/EC on Electromagnetic Compatibility
Council Directive 2006/95/EC on Low Voltage Equipment Safety

Type approval in accordance with 2006/42/EC performed by:

Powered Access Certification LTD
P. O. Box 98, Windermere
Cumbria, LA23 1WF, UK
Notified Body Identification Number: 0545

E. C. Type Examination Certificate No:

CE

Authorized Representative in European Union:

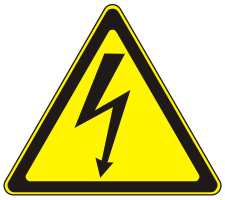
The Tanfield Group, PLC
Vigo Centre, Birtley Road
Washington, Tyne & Wear
NE38 9DA, UK

Note: Modification of the specified unit renders this declaration invalid.

SAFETY RULES

⚠Warning

All personnel shall carefully read, understand and follow all safety rules and operating instructions before operating or performing maintenance on any Pop Up aerial work platform.

Electrocution Hazard	Tip Over Hazard	Collision Hazard	Fall Hazard
			
THIS MACHINE IS NOT INSULATED!	**NEVER** elevate the platform or drive the machine while elevated unless the machine is on a firm, level surface.	**NEVER** position the platform without first checking for overhead obstructions or other hazards.	**NEVER** climb, stand, or sit on platform guardrails or midrail.

USE OF THE AERIAL WORK PLATFORM: This aerial work platform is intended to lift persons and his tools as well as the material used for the job. It is designed for repair and assembly jobs and assignments at overhead workplaces (ceilings, buildings etc.). Uses or alterations to the aerial work platform must be approved by **Pop Up**.

THIS AERIAL WORK PLATFORM IS NOT INSULATED! For this reason it is imperative to keep a safe distance from live parts of electrical equipment!

Exceeding the specified permissible maximum load **is prohibited!** See “Platform Capacity” on page 5 for details.

The use and operation of the aerial work platform as a lifting tool or a crane **is prohibited!**

NEVER exceed the manual force allowed for this machine. See “Manual Force” on page 5 for details.

DISTRIBUTE all platform loads evenly on the platform.

NEVER operate the machine without first surveying the work area for surface hazards such as holes, drop-offs, bumps, curbs, or debris; and avoiding them.

OPERATE machine only on surfaces capable of supporting wheel loads.

NEVER operate the machine outdoors or indoors when wind speeds exceed 0 m/s (0 mph).

Do not operate the aerial platform in windy or gusty conditions. Do not add anything to or take anything into the aerial platform that will increase the wind loading such as billboards, banners, flags, etc.

IN CASE OF EMERGENCY push EMERGENCY STOP switch to deactivate all powered functions.

IF ALARM SOUNDS while platform is elevated, STOP, carefully lower platform. Move machine to a firm, level surface.

Climbing up the railing of the platform, standing on or stepping from the platform onto buildings, steel or prefab concrete structures, etc., **is prohibited!**

Dismantling the entry gate or other railing components **is prohibited!** Always make certain that the entry gate is closed!

It is prohibited to keep the entry gate in an open position when the platform is raised!

To extend the height or the range by placing of ladders, scaffolds or similar devices on the platform **is prohibited!**

NEVER perform service on machine while platform is elevated without blocking elevating assembly.

INSPECT the machine thoroughly for cracked welds, loose or missing hardware, hydraulic leaks, loose wire connections, and damaged cables or hoses before using.

VERIFY that all labels are in place and legible before using.

NEVER use a machine that is damaged, not functioning properly, or has damaged or missing labels.

To bypass any safety equipment **is prohibited** and presents a danger for the persons on the aerial work platform and in its working range.

NEVER charge batteries near sparks or open flame. Charging batteries emit explosive hydrogen gas.

Modifications to the aerial work platform **are prohibited** or permissible only at the approval by **Pop Up**.

AFTER USE, secure the work platform from unauthorized use by turning the keyswitch off and removing key.

The driving of MEWP’s on the public highway is subject to national traffic regulations.

Certain inherent risks remain in the operation of this machine despite utilizing proper design practices and safeguarding.

Care must be taken to ensure that the machines meets the requirements of stability during use, transportation, assembly, dismantling when out of service, testing, or foreseeable breakdowns.

In the event of an accident or breakdown see “Emergency Lowering” on page 11, do not operate the aerial platform if it is damaged or not functioning properly. Qualified maintenance personnel must correct the problem before putting the aerial platform back into service.

Introduction

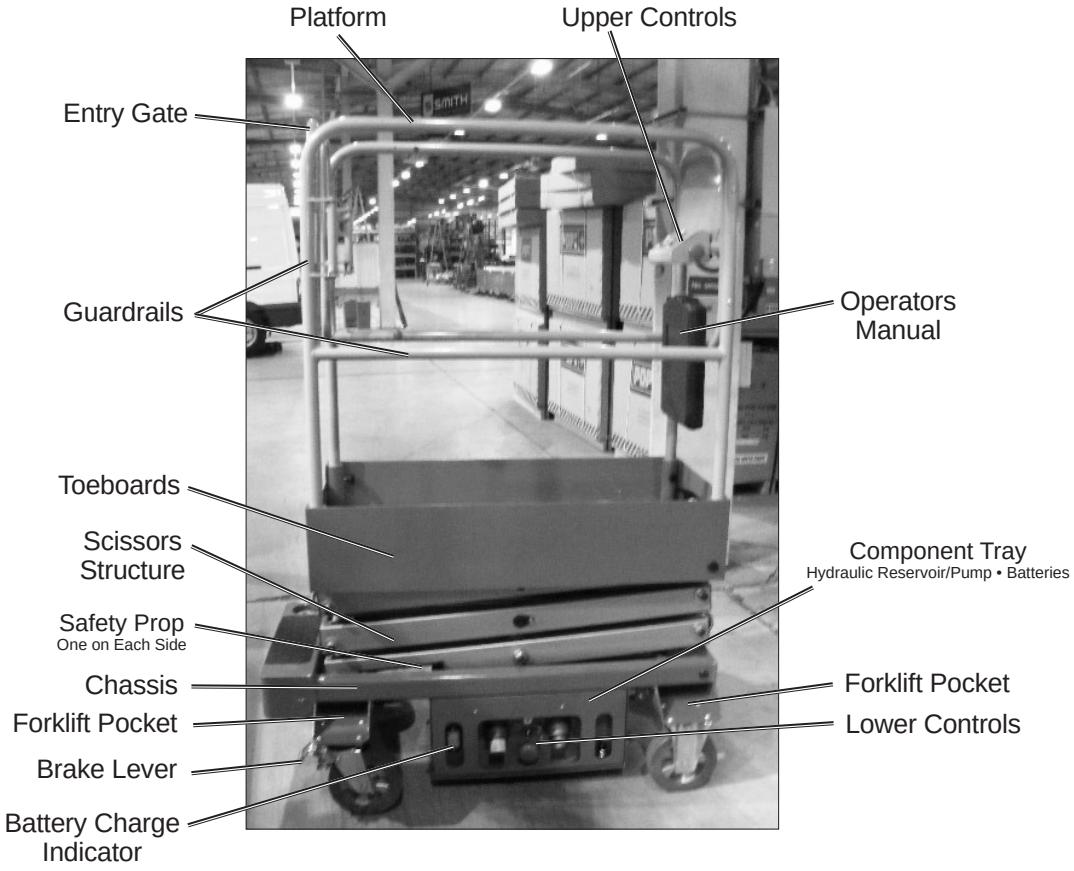
This manual covers the PUSH6, PUSH8, and PUSH10 Aerial Work Platforms.

This manual must be stored on the machine at all times.

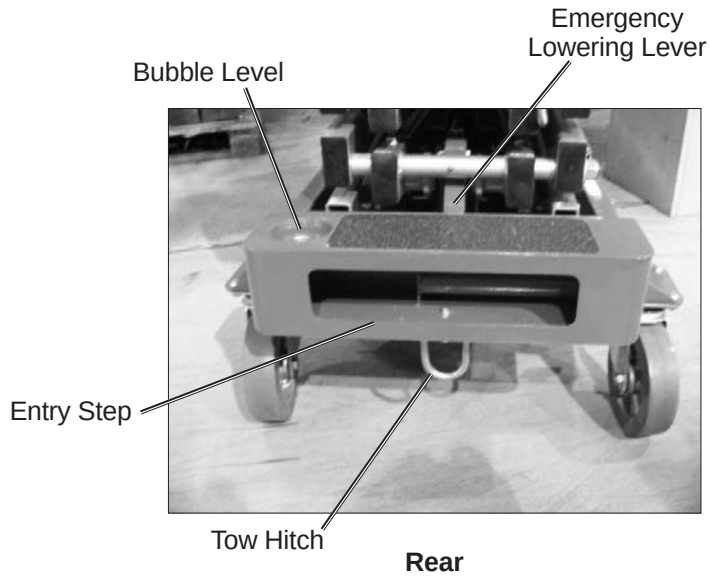
Read, understand and follow all safety rules and operating instructions before attempting to operate the machine.

When contacting Pop Up for service or parts information, be sure to include the MODEL and SERIAL NUMBERS from the equipment nameplate. Should the nameplate be missing, the SERIAL NUMBER is also stamped on the front of the chassis.

Component Identification



Right Side



Rear

Special Limitations

Elevating the platform is limited to firm, level surfaces only.

⚠Danger

The elevating function shall ONLY be used when the work platform is level and on a firm surface.

The work platform is NOT intended to be pushed over uneven, rough, or soft terrain.

Platform Capacity

One person and tools may occupy the platform when the machine is indoors only. The maximum platform capacity for the aerial platform is stated in the “Specifications” on pages 16 to 18.

⚠Danger

DO NOT exceed the maximum platform capacity or the platform occupancy limits for this machine.

Manual Force

Manual force is the force applied by the occupants to objects such as walls or other structures outside the work platform.

In zero wind conditions the maximum allowable manual force is limited to 200 N.

⚠Danger

DO NOT exceed the maximum amount of manual force for this machine.

Lift Level Sensor Interlock

The aerial platform lift function is interlocked through a level sensor system.

If the chassis is tilted more than 2 degrees side-to-side or front-to-rear, an alarm will sound when the power is turned on and the lift function will not operate. When the alarm sounds, only the platform lower function will operate.

Position the machine on a level surface when the lift level sensor alarm sounds. When the machine is properly positioned on a level surface, the alarm will not sound and all functions will be operational.

The lift level sensor system is for added protection and does not justify operating on anything other than firm, flat, level surfaces.

Lowering Alarm

When a platform control button is pressed to lower the platform, the alarm emits a loud beeping sound to warn personnel in the work area to stand clear.

⚠Danger

Pinch points exist on the scissors structure. Death or serious injury will result if the scissors structure lowers onto personnel within the scissors arms or under the raised platform. Stand clear while raising and lowering the platform.

Be careful when lowering the platform. Keep hands and fingers away from the scissors structures components.

Lowering Interrupt

When the platform is lowered to about 1.5 m (5′) lowering stops. The platform will not lower for five seconds regardless of the control position to allow personnel to clear the area of the scissors before the platform completely lowers.

Release the control to reset the lowering function, then continue to lower the platform.

BEAUFORT RATING	WIND SPEED				GROUND CONDITIONS
	m/s	km/h	ft/s	mph	
3	3,4~5,4	12,25~19,4	11.5~17.75	7.5~12.0	Papers and thin branches move, flags wave.
4	5,4~8,0	19,4~28,8	17.75~26.25	12.0~18	Dust is raised, paper whirls up, and small branches sway.
5	8,0~10,8	28,8~38,9	26.25~35.5	18~24.25	Shrubs with leaves start swaying. Wave crests are apparent in ponds or swamps.
6	10,8~13,9	38,9~50,0	35.5~45.5	24.5~31	Tree branches move. Power lines whistle. It is difficult to open an umbrella.
7	13,9~17,2	50,0~61,9	45.5~56.5	31.~38.5	Whole trees sway. It is difficult to walk against the wind.

Figure 1 – Beaufort Scale

Controls and Indicators

The operator shall know the location of each control and indicator and have a thorough knowledge of the function and operation of each before attempting to operate the machine.

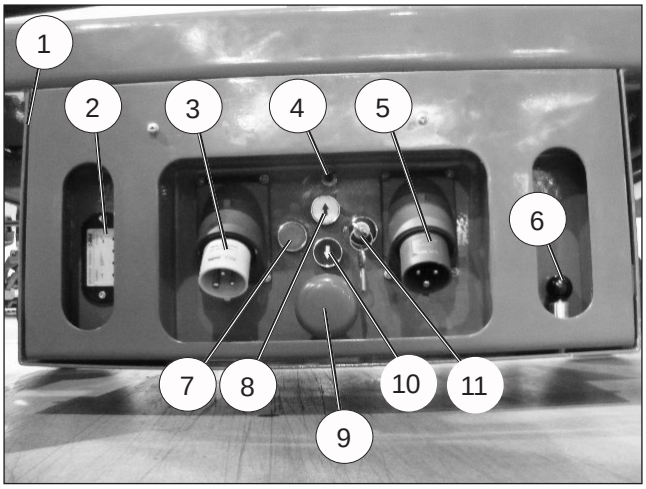


Figure 2 – Lower Controls and Indicators

1. Tilt/lowering alarm
2. Battery charge indicator
3. 110V battery charger plug
4. Battery charger mode selector
5. 230V/240V battery charger plug
6. Tray latch
7. Ground operation button
8. Platform raise button
9. Emergency stop button
10. Platform lower button
11. Control selector switch

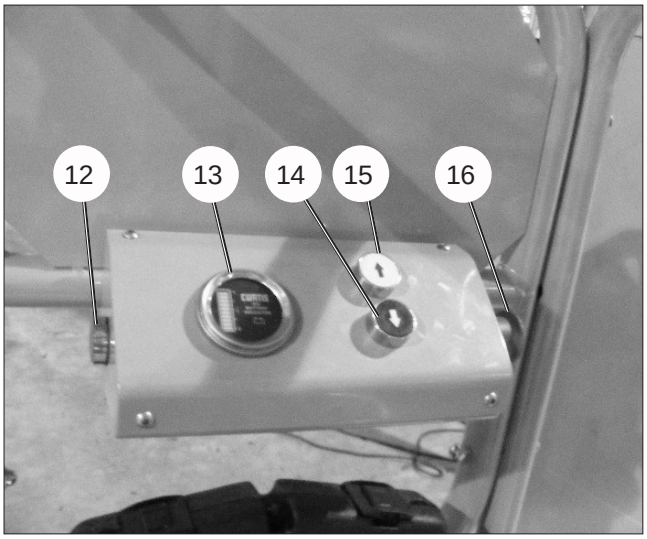


Figure 3 – Upper Controls and Indicators

12. Interlock button
13. Battery condition indicator
14. Platform lower button
15. Platform raise button
16. Emergency stop button

⚠Danger

Pinch points may exist between moving components. Death or serious injury will result from becoming trapped between components, buildings, structures, or other obstacles. Make sure all personnel stand clear while operating the aerial platform.

- Controls to position the platform are located on the lower control panel on the chassis and on the upper control panel in the platform.

Lower Controls

The lower controls (refer to Figure 2) are located on the right side of the chassis.

The following are located on the lower control panel:

- Emergency stop button
- Control selector switch
- Ground operation button
- Platform raise/lower buttons
- Battery charger selector/plugs/indicator

⚠Warning

The aerial platform is free to move when the brakes are released. Death or serious injury can result. Engage the brakes before operating the aerial platform.

Emergency Stop Button

The emergency stop is a two-position red push button.

- Push the button inward to disconnect power to all control circuits.

- Pull the button outward to restore power.

Control Selector Switch

Insert the key into the control selector switch.

- Turn the switch to the lower controls position to operate aerial platform functions from the lower controls. The upper controls will not operate while the control selector is in the lower position.

- Turn the switch to the upper controls position to operate the aerial platform functions from the upper controls.

- In the center position, aerial platform functions will not operate from the lower or upper controls.

Ground Operation Button
The ground operation button prevents platform movement if the platform raise or lower button is accidentally pressed. This switch is spring returned to the off position.

Press and hold the ground operation switch inward continually to operate the machine from the lower controls.

Platform Raise/Lower Buttons
The platform raise/lower buttons are used to raise or lower the platform. The buttons are spring returned to the off position.

- Press and hold the platform raise button to raise the platform.
- Press and hold the platform lower button to lower the platform.
- An alarm will sound as the platform lowers.

Battery Charger Mode Selector
The battery charger may be operated on either 110V or 230V/240V electrical circuits.

- Move the toggle switch to the left for operation on 110V circuits.
- Move the toggle switch to the right for operation on 230V/240V circuits.
- In the middle position, the battery charger is off and will not charge.

Upper Controls

The upper controls (refer to Figure 3) are located on the control panel at the front of the platform.

The following controls are located on the upper control panel:

- Interlock button
- Battery condition indicator
- Platform raise/lower buttons
- Emergency stop button

⚠Warning

The aerial platform is free to move when the brakes are released. Death or serious injury can result. Engage the brakes before operating the aerial platform.

Emergency Stop Button
The emergency stop is a two-position, red push button on the right side of the upper control panel.

- Push the button inward to disconnect power from all control circuits at the upper controls.
- Twist the button clockwise to restore power.

Push the button in when the upper controls are not in use to help protect against unintentional platform operation.

Interlock Button
The interlock button prevents platform movement if the platform raise or lower button is accidentally pressed. This switch is spring returned to the off position.

Press and hold the interlock button inward continually to operate the machine from the upper controls.

Platform Raise/Lower Buttons
The platform raise/lower buttons are used to raise or lower the platform. The buttons are spring returned to the off position.

- Press and hold the platform raise button to raise the platform.
- Press and hold the platform lower button to lower the platform.
- An alarm will sound as the platform lowers.

Pre-Operation Safety Inspection

Note
Carefully read, understand and follow all safety rules, operating instructions, labels and National Safety Instructions/Requirements. Perform the following steps each day before use.

1. Open the tray and inspect for damage, fluid leaks or missing parts.

2. Check the level of the hydraulic fluid with the platform fully lowered. The fluid level must be within 6 mm (¼″) of the top of the fill hole. Add recommended hydraulic fluid if necessary. See “Specifications” on pages 16 to 18.

3. Check that the fluid level in the batteries is correct. See “Battery Maintenance” on page 15.

4. Verify that the batteries are charged.

5. Check that the AC extension cord has been disconnected from the outlet on the side of the chassis.

6. Inspect the brakes on the rear castor wheels for proper operation. Step down on the brake levers and verify that the machine will not move.

7. Check that all guardrails are in place and all fasteners are properly tightened.

8. Inspect the machine thoroughly for cracked welds and structural damage, loose or missing hardware, hydraulic leaks, damaged control cable and loose wire connections.

System Function Inspection

Refer to “Controls and Indicators” on page 6 for the locations of various controls and indicators.

⚠Warning

STAND CLEAR of the work platform while performing the following checks.

Before operating the machine, survey the work area for surface hazards such as holes, drop-offs, bumps and debris.

Check in ALL directions, including above the work platform, for obstructions and electrical conductors.

1. Move the machine, if necessary, to an unobstructed area to allow for full elevation.
2. Pull the Lower Control Emergency Stop Switch to the ON position.
3. Turn the Upper Control Emergency Stop Switch clockwise to the ON position.
4. Visually inspect the scissors structure, lift cylinder, and hoses for cracked welds and structural damage, loose hardware, hydraulic leaks, loose wire connections, and erratic operation. Check for missing or loose parts.
5. Press and hold the ground operation button inward. Test each machine function from the lower control station (refer to Figure 2).
6. Test the emergency lowering system for proper operation.
7. Push the Lower Control Emergency Stop Button to check for proper operation. All machine functions should be disabled. Pull the Lower Control Emergency Stop Button outward to resume.
8. Enter the platform and close the gate.
9. Check that the route is clear of obstacles (persons, obstructions, debris), is level, and is capable of supporting the wheel loads.
10. Test each machine function from the upper control station by engaging the interlock and operating the function controls (refer to Figure 3).
11. Push the Upper Control Emergency Stop Button to check for proper operation. All machine functions should be disabled. Turn the Upper Control Emergency Stop Button clockwise to resume.

Operation

The aerial platform may be operated from either the lower or upper controls.

⚠Danger

The aerial platform is not electrically insulated. Death or serious injury will result from contact with, or inadequate clearance from, an energized conductor. Do not go closer than the minimum safe approach distance as defined by national safety regulations.

Pinch points may exist between moving components. Death or serious injury will result from becoming trapped between components, buildings, structures, or other obstacles. Make sure there is sufficient clearance around the machine before moving the chassis or platform. Allow sufficient room and time to stop movement to avoid contact with structures or other hazards.

The aerial platform can tip over if it becomes unstable. Death or serious injury will result from a tip-over accident. Operate the aerial platform on a firm, flat, level surface. Engage both of the rear brakes befor entering the platform. Do not position the aerial platform for elevated use near any drop-off, hole, slope, soft or uneven ground, or other tip-over hazard. Do not raise the platform in wind speeds above 0 m/s.

The platform rated work load is the total weight of the personnel and equipment that may be lifted in the platform.

The work loads are stated on the platform rating placard at the entrance to the platform.

⚠Danger

The aerial platform can tip over if it becomes unstable. Death or serious injury will result from a tip-over accident. Do not exceed the capacity values indicated on the platform rating placard.

Capacity values indicate the rated lifting capacity and do not indicate aerial platform stability.

The operator bears ultimate responsibility for ensuring that the aerial platform is properly set up for the particular conditions encountered.

Preparing for Operation

Use the following procedure to prepare the aerial platform for operation:

1. Perform a pre-operation safety and system function inspection.

2. Close and latch the component tray.

3. Position the machine in the work place and make certain the area is flat and horizontal. The bubble level must be inside of the inner circle on the level before the platform can be safely eleveted. Refer to Figure 4.

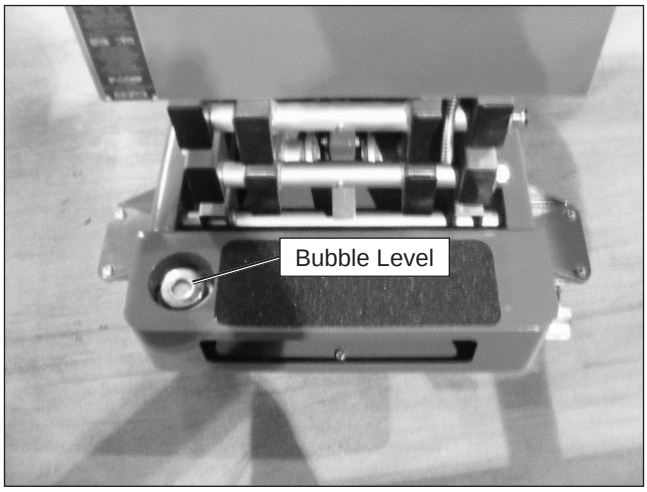


Figure 4 – Rear of Chassis

4. Step down on each of the brake levers to lock the rear wheels in position. Verify that the brakes are engaged before entering the platform.

Lower Controls

The platform raise and lower functions may be operated from the lower controls. The lower controls may be used for initial set up of the aerial platform, and for testing and inspection.

Use the following procedure to raise or lower the platform using the lower controls.

1. Pull the emergency stop button outward (refer to Figure 2).

2. Insert the key into the control selector switch and turn the switch to the lower controls position.

3. Press and hold the ground operation button inward.

   - To raise the platform, press and hold the platform raise button.

   - To lower the platform, press and hold the platform lower button.

4. Release the button to stop movement.

Upper Controls

Before operating the upper controls, properly set up the aerial platform as described under Preparing for Operation.

Use the following procedure to operate the aerial platform from the upper controls:

1. From the lower controls, pull the emergency stop button outward (refer to Figure 2).

2. Insert the key into the control selector switch and turn the switch to the upper controls position.

Note
The upper controls will not operate while the control selector is in the lower position.

3. Enter the platform and secure the gate.

4. From the upper controls, turn the emergency stop button clockwise to the on position (refer to Figure 3).

5. The platform may be raised and lowered from the upper controls.

Platform

Use care when entering and exiting the platform to avoid slipping and/or falling. Securely close the safety gate when the platform is occupied.

Raising and Lowering

Press and hold the interlock button on the left side of the upper control box.

- To raise the platform, press and hold the platform raise button until the desired height is reached.

- To lower the platform, press and hold the platform lower button until the desired height is reached.

Lowering Interrupt

When the platform is lowered to about 1.5 m (5′) lowering stops. The platform will not lower for five seconds regardless of the joystick position.

Release the platform lower button to reset the lowering function, then continue to lower the platform.

Component Tray

Batteries and hydraulic components are enclosed in the component tray on the left side of the chassis.

⚠Danger

The aerial platform can tip over if it becomes unstable. Death or serious injury can result from a tip-over accident. Do not open the tray when the platform is elevated.

To open the tray, lift up on the tray latch and pull the tray open.

Emergency Lowering

Use the following procedure to operate the emergency lowering system.

⚠Warning

The potential for an accident increases when safety devices do not function properly. Death or serious injury can result from such accidents. Immediately push the emergency stop button inward to disable the control system before using the emergency lowering system in the event of an emergency.

1. Immediately push the emergency stop button inward to disable the control system in the event of an emergency.

2. Make sure there is nothing in the way to obstruct the platform when it lowers.

   - Push downward on the lever to lower the platform.

3. Make certain the lever/handle is fully released and the emergency lowering valve is fully closed before operating the aerial platform.

Transporting the Machine

Preparing for Transportation

Use the following procedure to prepare the aerial platform for transportation.

1. Remove any unnecessary tools, materials, or other loose objects from the platform.
2. Close and latch the component tray.

Transporting

The equipment used to load, unload, and transport the aerial platform must have adequate capacity. The empty vehicle weight is listed in “Specifications” on pages 16 to 18 and is stamped on the serial number placard.

The user assumes all responsibility for:

- Choosing the proper method of transportation.
- Choosing the proper selection and use of transportation and tie-down devices.
- Making sure the equipment used is capable of supporting the weight of the aerial platform.
- Making sure all manufacturer’s instructions and warnings, regulations and safety rules of their employer, the DOT, and/or any other state or federal law are followed.

Lifting With a Forklift

Use the following procedure to lift the aerial platform with a forklift.

1. Properly stow the aerial platform.
2. Engage the brakes on both of the rear wheels.
3. Remove all personnel, tools, materials, or other loose objects from the platform.
4. Insert the forklift forks into the pockets on either side of the machine.

⚠Caution

Lifting the aerial platform with the forklift forks positioned improperly can produce enough force to damage machine components. When lifting the machine with a forklift, only use the designated lift points.

5. Do not raise the aerial platform higher than necessary to transport it. Drive the forklift slowly and carefully when transporting the aerial platform.

Lifting With a Tail Lift

Use the following procedure to lift the aerial platform with a forklift.

1. Properly stow the aerial platform.
2. Remove all personnel, tools, materials, or other loose objects from the platform.
3. Position the aerial platform on the tail lift.
4. Engage the brakes on both of the rear wheels.
5. Carefully raise the lift and position the aerial platform in the transport vehicle.
6. Secure the machine to the transport vehicle using straps through the fork lift pockets.

Maintenance

⚠Warning

Always block the elevating assembly whenever it is necessary to perform maintenance while the platform is elevated.

Use the following procedure to properly position the safety props:

1. Remove all tools and material from the platform.
2. Using the lower controls, raise the platform until the open distance on the chassis is wide enough to position the safety props. Refer to Figure 5.

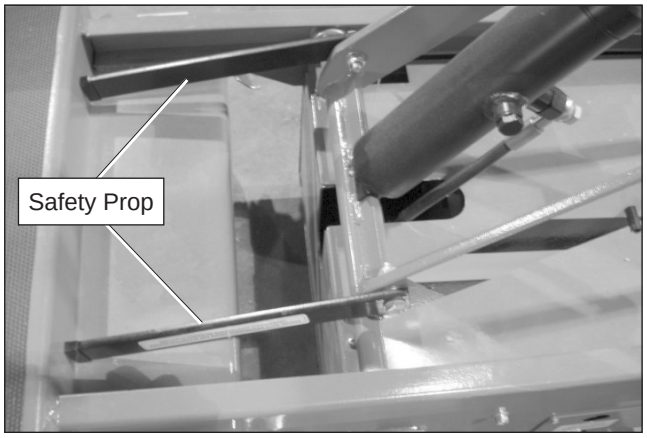


Figure 5 – Safety Props

3. Rotate the safety props downward from the storage position to the support position.
4. Remove hands and arms from the scissors area.
5. Lower the platform until the scissors are supported by the safety props.

Hydraulic Fluid
The hydraulic fluid reservoir is located in the component tray. Refer to Figure 6.

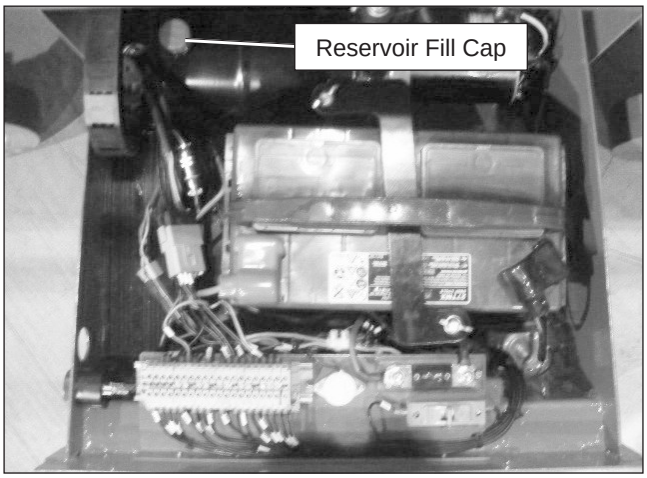


Figure 6 – Component Tray

Note
Never add fluid if the platform is elevated.

Check Hydraulic Fluid
1. Make sure that the platform is fully lowered.
2. Visually check to make sure the fluid is within 6 mm (¼″) of the top of the fill hole.
3. If necessary, remove the filler cap and add fluid of the proper type. Replace the cap making sure it is tightly in place. Refer to “Specifications” pages 16 to18.

Battery Maintenance

⚠Warning

Hazard of explosive gas mixture. Keep sparks, flame, and smoking material away from the battery.

Always wear safety glasses when working near the battery.

Battery fluid is highly corrosive. Thoroughly rinse away any spilled fluid with clean water.

Always replace the battery with a manufacturer approved replacement.

- Check the battery fluid level daily, especially if the machine is being used in a warm, dry climate.
- If electrolyte level is lower than 6 mm (¼″) above the plates add distilled water only. DO NOT use tap water with high mineral content, as it will shorten battery life.
- Keep the terminals and top of the battery clean.
- Refer to the Service Manual to extend battery life and for complete service instructions.

⚠Warning

Always use manufacturer approved replacement parts.

Battery Charging
Charge the battery at the end of each work shift or sooner if the battery has been discharged.

⚠Warning

Charge the battery in a well ventilated area.

Do not charge the battery when the machine is near a source of sparks or flames.

Permanent damage to the battery will result if the battery is not immediately recharged after discharging.

Never disconnect the cables from the battery when the charger is operating.

Keep the charger dry.

1. At the lower controls, turn the control selector switch to the off position.

2. Open the component tray to access the battery. Remove the caps from the battery.

3. Visually check the battery fluid level making sure the level is within 6 mm (¼″) of the bottom of the filler neck inside each hole. If needed, add distilled water.

4. Tightly replace the caps on each battery and replace and latch the battery tray covers.

5. Place the battery charger mode selector, on the lower control panel, in the appropriate position for power source being used.

   - Move the toggle switch to the left for operation on 110V circuits.

   - Move the toggle switch to the right for operation on 230V240V circuits.

6. Plug the battery charger into a properly grounded outlet (100-240 volt AC, 50/60 Hz) using a 3 conductor, 1.5 mm (12 gauge) or larger extension cord. The extension cord must be as short as possible and in good electrical condition.

Note
The aerial platform will not operate while the battery charger is plugged in.

7. Visually inspect the battery charge indicator for proper charging rate. The LED's are visible on the left side of the lower controls. Refer to Figure 7 for the function of each LED. The battery should be fully charged when the 95% LED is on.

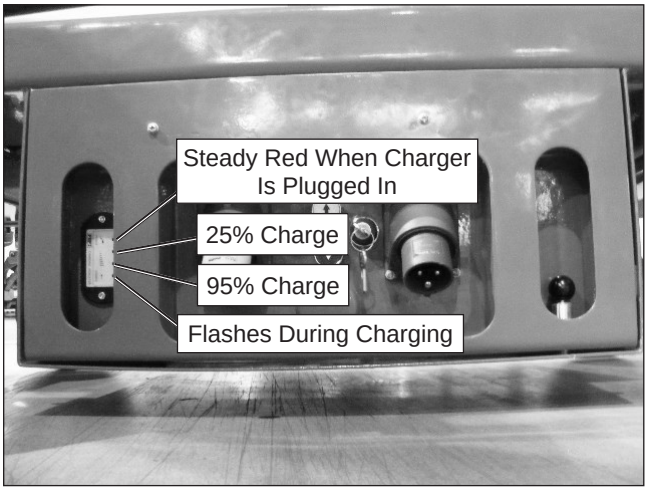


Figure 7 – Battery Charge Indicator

8. Leave the battery charger plugged in until it shuts itself off.

Note
If the charging cycle exceeds 16 hours without the battery being fully recharged, unplug the charger and have the battery checked.

9. After the battery charger turns itself off, it is not necessary to immediately unplug the extension cord from the battery charger. The charger will monitor the charge state of the battery and recharge them if the voltage drops off.

10. Slide the component tray open to access the battery. Remove the caps from the battery.

11. Visually check the battery fluid level making sure the level is within 6 mm (¼″) of the bottom of the filler neck inside each hole. If needed, add distilled water.

12. Tightly replace the caps on the battery and close and latch the component tray.

Inspection and Maintenance Schedule

⚠Caution

Frequency and extent of periodic examinations may depend on national regulations.

The Complete Inspection consists of periodic visual and operational checks, along with periodic minor adjustments that assure proper performance. Daily inspection will prevent abnormal wear and prolong the life of all systems. The inspection and maintenance schedule should be performed at the specified intervals and after prolonged periods of storage before returning the machine to service. Inspection and maintenance shall be performed by personnel who are trained and familiar with mechanical and electrical procedures.

⚠Warning

Before performing preventative maintenance, familiarize yourself with the operation of the machine. Always block the scissors structure whenever it is necessary to perform maintenance while the platform is elevated.

The daily preventative maintenance checklist has been designed for machine service and maintenance. Please photocopy the Daily Preventative Maintenance Checklist and use the checklist when inspecting the machine.

Daily Preventative Maintenance Checklist

Preventative Maintenance Report

Date: _____ Serial No: _____

Owner: _____ Serviced By: _____

Model No: _____

Item	Inspect For	Y	N	R
Operator's Manual	In manual holder, all pages readable and intact			
Electrical System				
Battery fluid level	Proper level			
Battery terminals	Clean, connectors tight			
Battery charge indicator	Proper operation			
Battery charger	Proper operation			
Cables and wiring harness	No wear or physical damage			
Hydraulic System				
Fluid level	Between full and add marks with platform stowed			
Hoses, tubes and fittings	No leaks, all fittings tight			
Castors	Good condition, no damage/smooth movement			
Manual Brakes	Proper operation, no damage or deformation			
Lower Control Station				
Operating controls	Proper operation			
Emergency stop	Shuts off lower controls/proper operation			
Lowering alarm and interrupt	Sounds when platform lowers/proper operation			
Emergency Lowering	Proper operation			
Safety Prop	No damage or deformation			
Structures				
Weldments – Scissors, chassis, steps, platform, etc.	Welds intact, no damage or deformation			
Platform slide rollers	In place, no damage or deformation			
Fasteners	In place, tight, and no damage			
Upper Control Station				
Guardrail system	Welds intact, no damage or deformation			
	All fasteners in place, no loose or missing parts			
Platform floor	No damage or deformation			
	Clean to prevent slip and fall hazards			
Entry gate	Proper operation, no damage or deformation			
Operating controls	Proper operation/raise and lower			
Lowering delay	Proper operation, limit switch delays lowering			
Emergency stop	Shuts off upper controls			
Operation and Safety Decals	In place and readable			

Maintenance Table Key: Y = Yes/Acceptable, N = No/Not Acceptable, R = Repaired/Acceptable

General Specifications – PUSH6

Aerial Platform

Working height	3.83 m
Maximum platform height	1.83 m
Wheelbase	1 m
Ground clearance	1.9 cm
Maximum wheel load	267 kg
Maximum ground pressure	10.4 kg/cm²
Floor loading	782 kg/m²
Weight, EVW	
Approximate	295 kg
Stowed width	76.2 cm
Stowed length	1.23 m
Stowed height	1.59 m

Platform

Dimensions	51.3 cm x 109 cm
Guardrail height	110.4 cm
Toeboard height	15.3 cm
Rated work load	240 kg
Maximum number of occupants	1 indoors

Function Speed

Platform raise	6 to 10 seconds
Platform lower	6 to 10 seconds

Lift Level Sensor Interlock

Side-to-side	2 degrees
Front-to-rear	2 degrees

Tires Nonmarking solid rubber

Electrical System

Voltage	12 V DC negative chassis ground
Source	One - 12 V 105 amp hour battery
Fluid recommended	distilled water
Charger	15 amp

Hydraulic System

Maximum pressure	19,305 kPa
Reservoir capacity	3.78 l
System capacity	3.78 l
Maximum operating temperature	71°C (160°F)
Hydraulic fluid recommended	
Above -13°C (10°F)	ISO VG32 (Mobil DTE-13M)
Below -13°C (10°F)	ISO VG15 (Mobil DTE-11M)

Ambient Air Temperature Operating Range

Celsius	-18°C to 43°C
Fahrenheit	0°F to 110°F

Maximum Wind Speed

Gust or steady	0 m/s

Vibration less than 2.5 m/sec²

Sound Pressure Level

At work station	below 70 dB(A)

General Specifications – PUSH8

Aerial Platform

Working height	4.43 m
Maximum platform height	2.43 m
Wheelbase	1 m
Ground clearance	1.9 cm
Maximum wheel load	287 kg
Maximum ground pressure	11.1 kg/cm²
Floor loading	835 kg/m²
Weight, EVW	
Approximate	331 kg
Stowed width	76.2 cm
Stowed length	1.23 m
Stowed height	1.67 m

Platform

Dimensions	51.3 cm x 109 cm
Guardrail height	110.4 cm
Toeboard height	15.3 cm
Rated work load	240 kg
Maximum number of occupants	1 indoors

Function Speed

Platform raise	6 to 12 seconds
Platform lower	8 to12 seconds

Lift Level Sensor Interlock

Side-to-side	2 degrees
Front-to-rear	2 degrees

Tires Nonmarking solid rubber

Electrical System

Voltage	12 V DC negative chassis ground
Source	One - 12 V 105 amp hour battery
Fluid recommended	distilled water
Charger	15 amp

Hydraulic System

Maximum pressure	19 305 kPa
Reservoir capacity	3.78 l
System capacity	3.78 l
Maximum operating temperature	71°C (160°F)
Hydraulic fluid recommended	
Above -13°C (10°F)	ISO VG32 (Mobil DTE-13M)
Below -13°C (10°F)	ISO VG15 (Mobil DTE-11M)

Ambient Air Temperature Operating Range

Celsius	-18°C to 43°C
Fahrenheit	0°F to 110°F

Maximum Wind Speed

Gust or steady	0 m/s

Vibration less than 2.5 m/sec²

Sound Pressure Level

At work station	below 70 dB(A)

General Specifications – PUSH10

Aerial Platform

Working height	5 m
Maximum platform height	3.0 m
Wheelbase	1 m
Ground clearance	1.9 cm
Maximum wheel load	293 kg
Maximum ground pressure	11.4 kg/cm²
Floor loading	855 kg/m²
Weight, EVW	
Approximate	345 kg
Stowed width	76.2 cm
Stowed length	1.23 m
Stowed height	1.67 m

Platform

Dimensions	51.3 cm x 109 cm
Guardrail height	110.4 cm
Toeboard height	15.3 cm
Rated work load	240 kg
Maximum number of occupants	1 indoors

Function Speed

Platform raise	10 to14 seconds
Platform lower	10 to14 seconds

Lift Level Sensor Interlock

Side-to-side	2 degrees
Front-to-rear	2 degrees

Tires Nonmarking solid rubber

Electrical System

Voltage	12 V DC negative chassis ground
Source	One - 12 V 105 amp hour battery
Fluid recommended	distilled water
Charger	15 amp

Hydraulic System

Maximum pressure	19,305 kPa
Reservoir capacity	3.78 l
System capacity	3.78 l
Maximum operating temperature	71°C (160°F)
Hydraulic fluid recommended	
Above -13°C (10°F)	ISO VG32 (Mobil DTE-13M)
Below -13°C (10°F)	ISO VG15 (Mobil DTE-11M)

Ambient Air Temperature Operating Range

Celsius	-18°C to 43°C
Fahrenheit	0°F to 110°F

Maximum Wind Speed

Gust or steady	0 m/s

Vibration less than 2.5 m/sec²

Sound Pressure Level

At work station	below 70 dB(A)

Local Distributor:

Lokaler Vertiebshändler:

Distributeur local:

El Distribuidor local:

ll Distributore locale:

USA

Phone: 1 (785) 989 3000
Toll Free: 1 (800) 255 0317
Fax: 1 (785) 989 3070

Europe

Phone: +44 (0) 845 1550 057
Fax: +44 (0) 845 1557 756

POP UP®

Repair Parts Manual

PUSH8
PUSH10

Serial number 000000 and after

CE

Part Number 0120877
November 2010

DANGER

The aerial platform is not electrically insulated. Death or serious injury will result from contact with, or inadequate clearance from, an energized conductor.

Do not go closer than the Minimum Safe Approach Distance as defined by ANSI standards.

Regard all conductors as energized.

Allow for electrical wire sag and aerial platform sway.

If the platform, scissors structure, or any part of the aerial platform contacts a high-voltage electrical conductor, the entire machine can become electrically charged.

If that happens, remain on the machine and do not contact any other structure or object. This includes the ground, adjacent buildings, poles, and any other objects that are not part of the aerial platform.

Such contact could make your body a conductor to the other object, creating an electrical shock hazard resulting in death or serious injury.

If an aerial platform is in contact with an energized conductor the platform operator must warn ground personnel in the vicinity to stay away. Their bodies can conduct electricity creating an electrical shock hazard resulting in death or serious injury.

Do not approach or leave the aerial platform until the electricity has been turned off.

Do not attempt to operate the lower controls when the platform, boom structure, or any part of the aerial platform is in contact with a high-voltage electrical conductor or if there is an immediate danger of such contact.

Personnel on or near an aerial platform must be continuously aware of electrical hazards, recognizing that death or serious injury can result from contact with an energized conductor.

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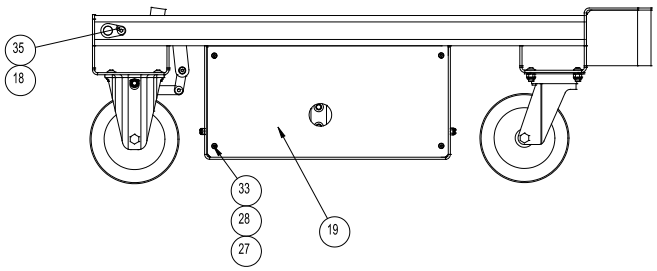

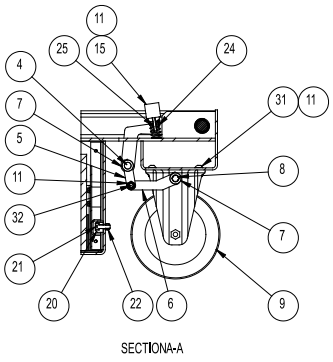

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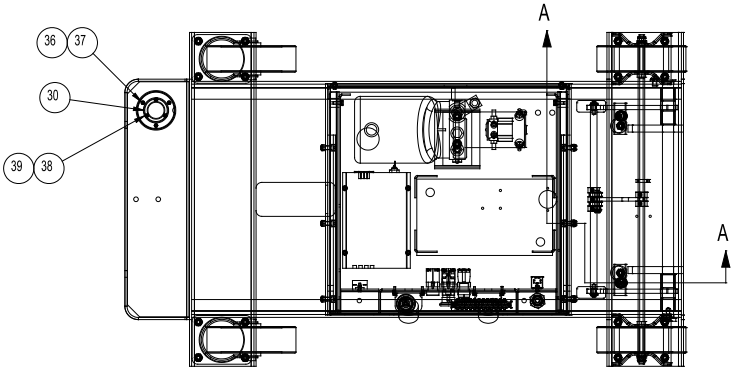

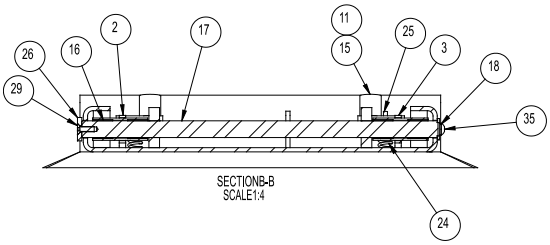

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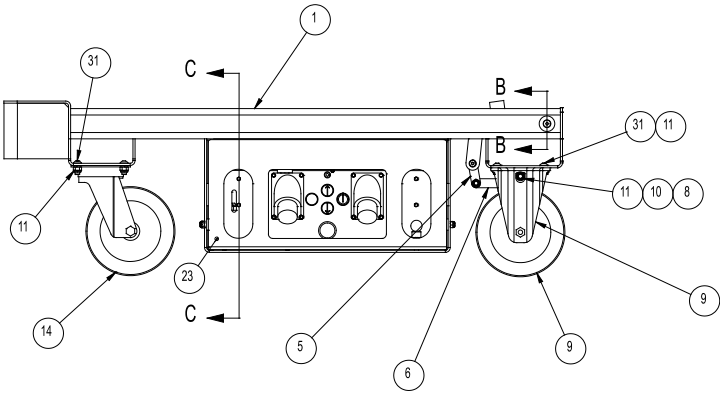

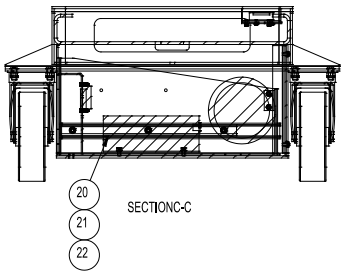

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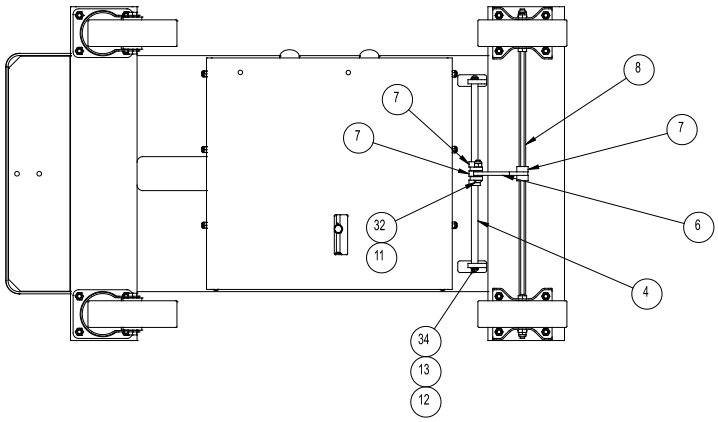
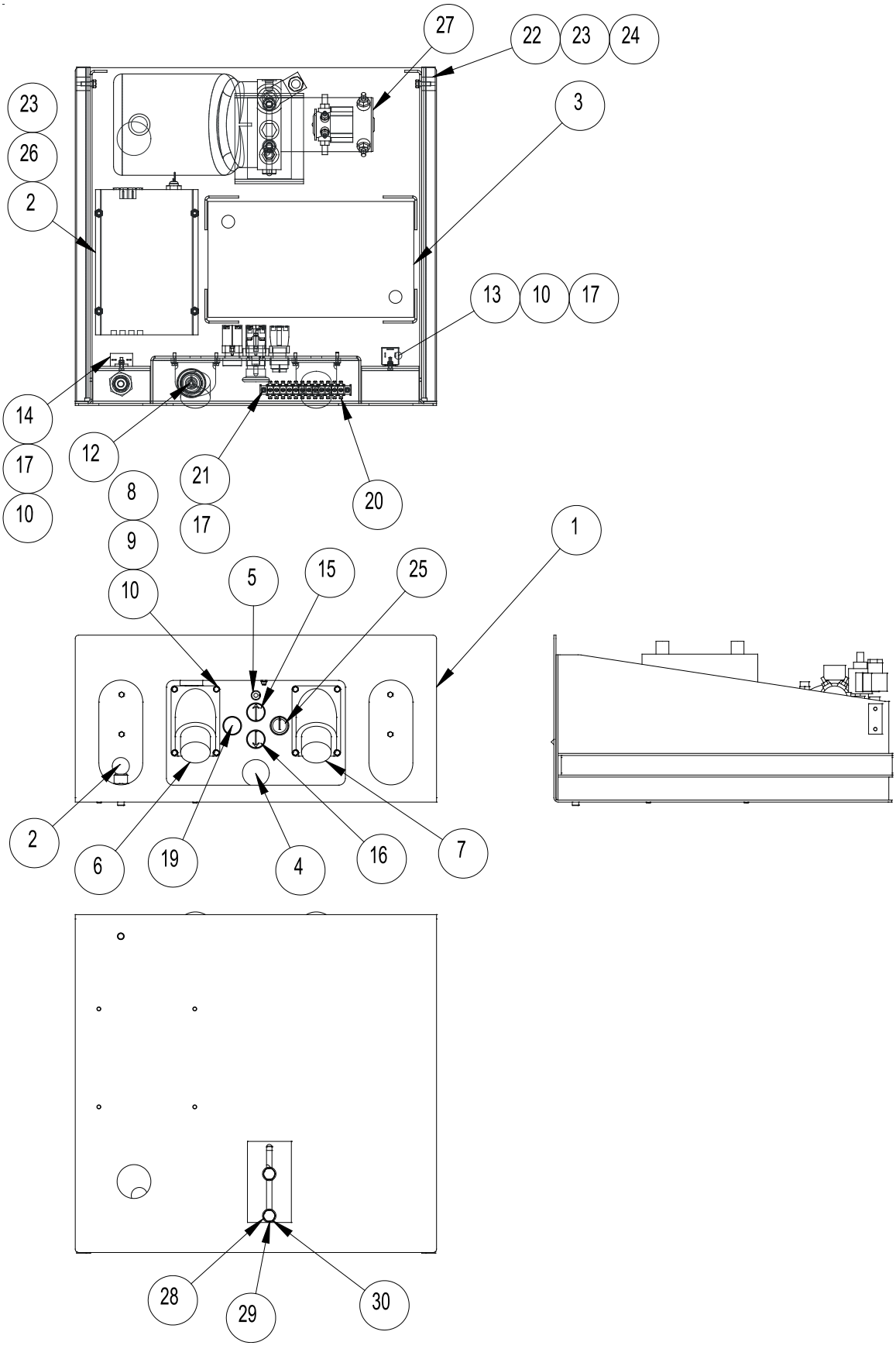


Chassis – PUSH8/PUSH10

Item	Part No.	Qty.	Description
1	0120591-D	1	BASE WELDMENT
2	0120675-D	1	ARM WELDMENT
3	0120676-D	1	ARM WELDMENT
4	0120671	1	PIN
5	0120667-D	2	LINK
6	0120668-D	1	LINK
7	5554375	5	COLLAR SHAFT 15MM
8	0120670	1	BAR HEX
9	0120664	2	WHEEL ASSY FIXED CASTOR
10	5560364	4	M10 FLAT WASHER DIN 125
11	5560719	21	NUT HEX LKG M10-1.50
12	5560613	2	WSHR FLAT M8
13	5560355	2	WSHR LOCK M8
14	0120663	2	WHEEL ASSY SWIVEL CASTOR
15	0120752	2	BUMPER W/M10 X 1.5 THREADED STUD
16	2509723	4	BRG 25MM ID X 28MM OD X 30MM LG
17	0120682-D	1	WELDMENT PIN
18	5560356	1	WSHR LOCK M10 DIN 127
19	0120751	1	COVER PLATE
20	0120680-D	2	SLIDE
21	5563226	6	SHCS M8 X 1.25 X 25 G8.8 ISO 4762 BLACK OXIDE
22	5560727	6	NUT HEX LKG M8-1.25
23	0120725	1	TRAY SUB ASSY PUSH
24	5534378	2	SPRING
25	5563250	2	ROLL PIN 6M X 30
26	0120560-D	1	KEEPER PIN
27	5560629	4	M6 FLAT WASHER DIN 125
28	5560664	4	WSHR LOCK M6 DIN 127
29	5563128	1	BLT FLSKTHD M8-1.25 25
30	0120798	1	LEVEL, BUBBLE
31	5563263	16	SBHCS M10 X 1.50 X 25 GR 10.9 BLK FINISH
32	5563267	1	SBHCS M10 X 1.50 X 45 GR 10.9 BLK FINISH
33	5563279	4	SBHCS M6 X 1.0 X 12 GR 10.9 BLK FINISH
34	5563297	2	SBHCS M8 X 1.25 X 16 GR 10.9 BLK FINISH
35	5563260	1	SBHCS M10 X 1.50 X 16 GR 10.9 BLK FINISH
36	5563011	3	NUT LKG M4-0.70
37	5563270	3	SBHCS M4 X 0.70 X 12 GR 10.9 BLK FINISH
38	5563019	3	WSHR LOCK M5 DIN 127
39	5563338	3	HHCS M3 X 0.5 X 10 G 8.8 ISO 4017 DIN 933

Chassis – PUSH8/PUSH10

Tray



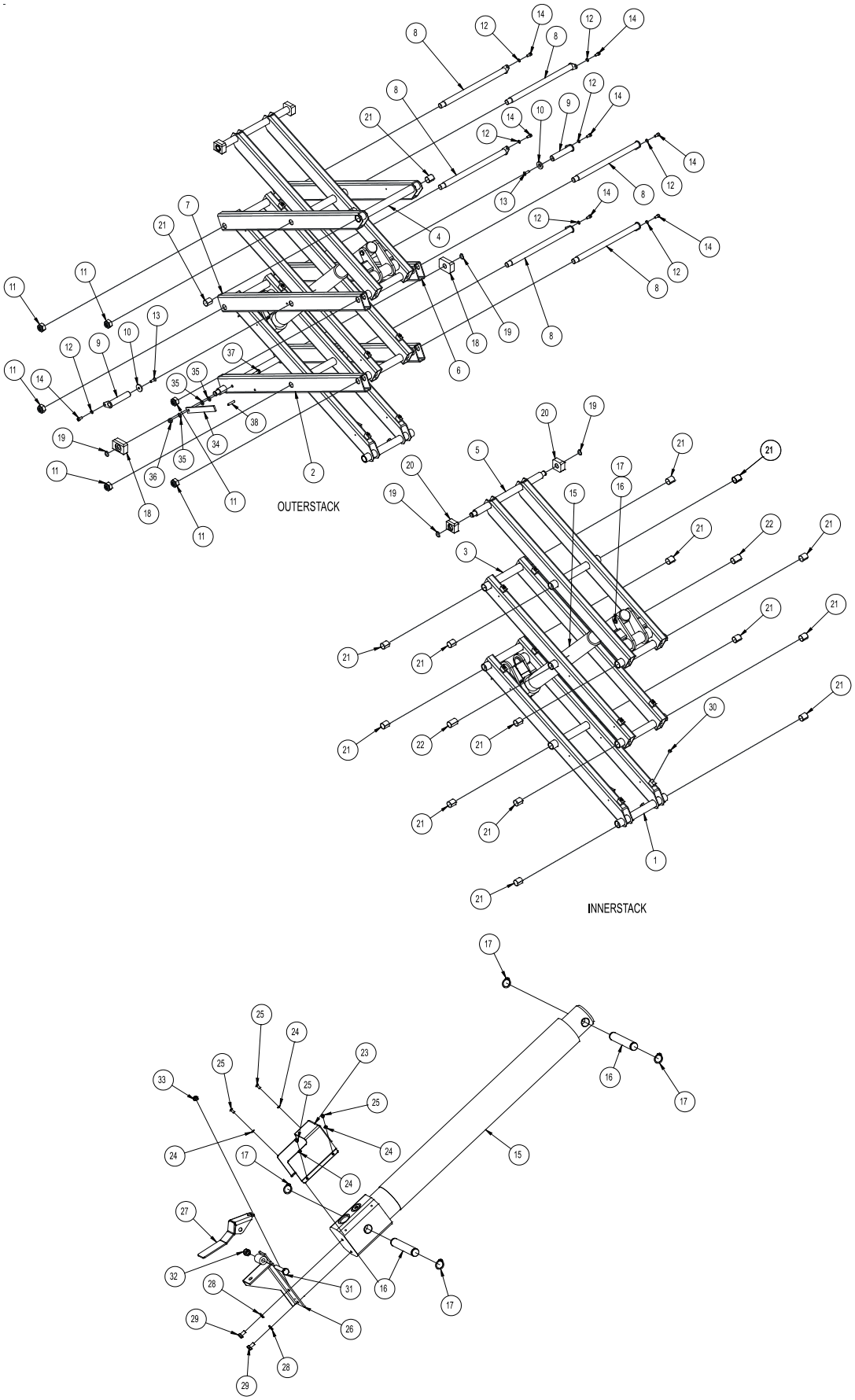
0120725

Tray

Tray

Item	Part No.	Qty.	Description
1	0120830	1	WLDMT, TRAY
2	0120827	1	CHARGER SIGNET 12V
3	3050002	1	BATTERY 12V
4	3028810	1	PUSH/PULL SW ASSY W/NC CONTACT
5	3020016	1	SW TGL SPDT (ON) OFF (ON)
6	0120802	1	CHARGER PLUG BLUE
7	0120801	1	CHARGER PLUG YELLOW
8	5569887	8	M4 FLAT WASHER DIN 125
9	5563245	8	WSHR LOCK M4 DIN 127
10	5563131	12	BLT HEXHD M4-0.7 16MM
11	003570-005	1	RETAINING PIN ASSY
12	3049978	1	ALARM, ECCO BEEPING 6-28VDC
13	3040469	2	RELAY SPDT 12V 30AMP
14	3040508	1	TIME DELAY MODULE
15	0120803	1	RAISE PUSH BUTTON
16	0120804	1	LOWER PUSH BUTTON
17	5563011	6	NUT LKG M4-0.70
18	3020167	1	KEY SWITCH
19	0120805	1	ENABLE PUSH BUTTON
20	3040433	1	TERMINAL STRIP (12) .188 TAB
21	5563249	2	SHCS M4 X 0.7 X 25 G8.8 ISO 4762 ZINC PLATED - BRIGHT CROMATED
22	0120834	2	BLOCK, TRAY STOP
23	5560664	8	WSHR LOCK M6 DIN 127
24	5560690	4	HHCS M6 X 1 X 18 G8.8 ISO 4017 DIN 933
25	3028820	1	CONTACT BLOCK ON/N/ON
26	5563248	4	SHCS M6 X 1 X 12 G12.9 ISO 4762 ZINC PLATED - BRIGHT CROMATED
27	0120657	1	POWER UNIT
28	5560364	2	M10 FLAT WASHER DIN 125
29	5560356	2	WSHR LOCK M10 DIN 127
30	972019	2	BLT HEXHD M10-1.5 X 25MM

Tray



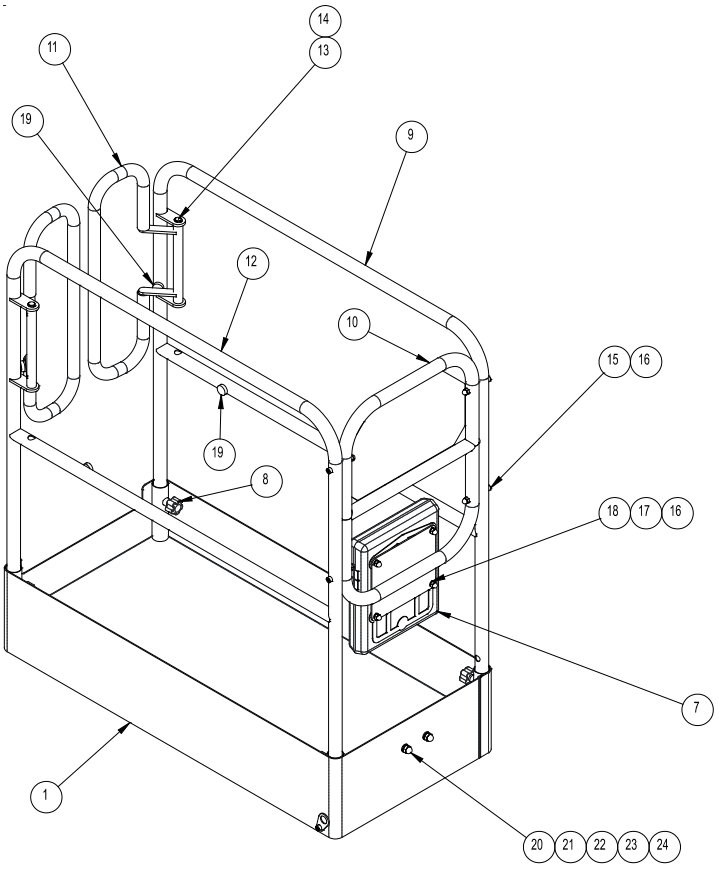
Scissor Stack – PUSH8/PUSH10

0120829

Scissor Stack – PUSH8/PUSH10

Item	Part No.	Qty.	Description
1	0120598	1	WLDMNT IST INNER ARM PUSH 8
	0120525	1	WLDMNT IST INNER ARM PUSH 10
2	0120595	1	WLDMNT 1ST OUTER ARM PUSH 8
	0120519	1	WLDMNT 1ST OUTER ARM PUSH 10
3	0120603	1	WLDMNT 2ND INNER ARM PUSH 8
	0120548	1	WLDMNT 2ND INNER ARM PUSH 10
4	0120606	1	WLDMNT 3RD OUTER ARM PUSH 8
	0120549	1	WLDMNT 3RD OUTER ARM PUSH 10
5	0120609	1	WLDMNT 3RD INNER ARM PUSH 8
	0120539	1	WLDMNT 3RD INNER ARM PUSH 10
6	0120602	1	TUBE 2ND OUTER ARM LH PUSH 8
	0120553	1	TUBE 2ND OUTER ARM LH PUSH 10
7	0120601	1	TUBE 2ND OUTER ARM RH PUSH 8
	0120554	1	TUBE 2ND OUTER ARM RH PUSH 10
8	0120557	6	WELDMENT PIN
9	0120559	2	WELDMENT PIN
10	0120560	2	KEEPER PIN
11	5563247	6	M22 X 2.5 STEEL-INSERT HEX LOCKNUT
12	5560355	8	WSHR LOCK M8
13	5563128	2	BLT FLSKTHD M8-1.25 25
14	5563240	8	SHCS M8 X 1.25 X 16 G12.9 ZINC COATED ALLOY STEEL
15	0120811	1	CYLINDER, LIFT PUSH 8
	0120658	1	CYLINDER, LIFT PUSH 10
16	0120660	2	PIN CYLINDER MOUNT
17	5592008	4	SNAP RING EXTERNAL 18MM
18	0120616	2	BLOCK SLIDE
19	5592007	4	SNAP RING EXT 20MM
20	0120612	2	BLOCK SLIDE
21	2509723	16	BRG 25MM ID X 28MM OD X 30MM LG
22	2509724	2	BRG 25MM ID X 28MM OD X 40MM LG
23	0120786	1	COVER COIL
24	5563245	4	WSHR LOCK M4 DIN 127
25	5563241	4	SBHCS M4 X .7 X 8 18-8 STAINLESS STEEL
26	1360088	1	WLDMT, PIVOT BRKT BLEED DOWN
27	0120820	1	WLDMT BLEED DOWN LEVER
28	5560664	2	WSHR LOCK M6 DIN 127
29	5560628	2	HHCS M6 X 1 X 12 G8.8 ISO 4017 DIN 933
30	5563237	8	BUMPER
31	5560634	1	HHCS M8 X 1.25 X 45 G8.8 ISO 4017 DIN 933
32	5560727	1	NUT HEX LKG M8-1.25
33	5560034	1	10-24UNC HEX LOCK NUT
34	0120813	2	SAFETY PROP, POPUP
35	5560364	6	M10 FLAT WASHER DIN 125
36	5560719	2	NUT HEX LKG M10-1.50
37	5560672	2	HHCS M10 X 1.5 X 65 G8.8 DIN 933
38	5560023	2	PIN, ROLL M8 40

Scissor Stack – PUSH8/PUSH10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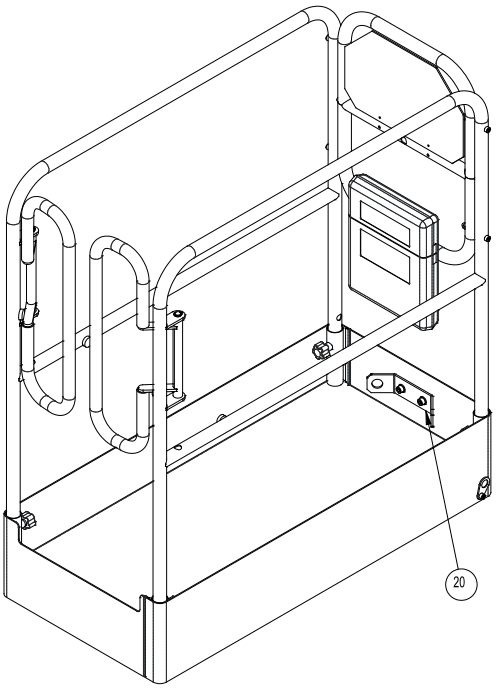
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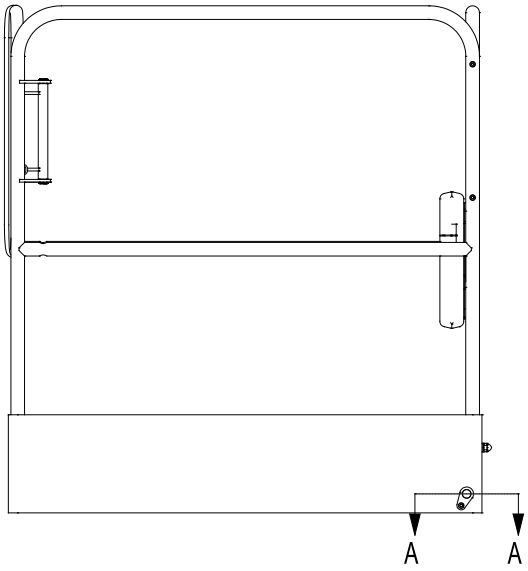
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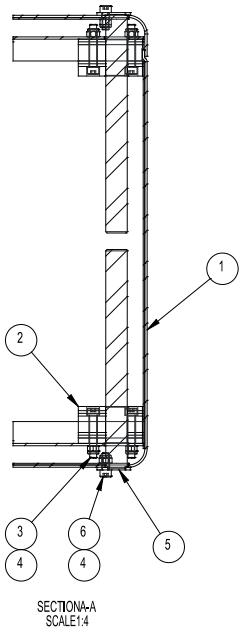
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0120727

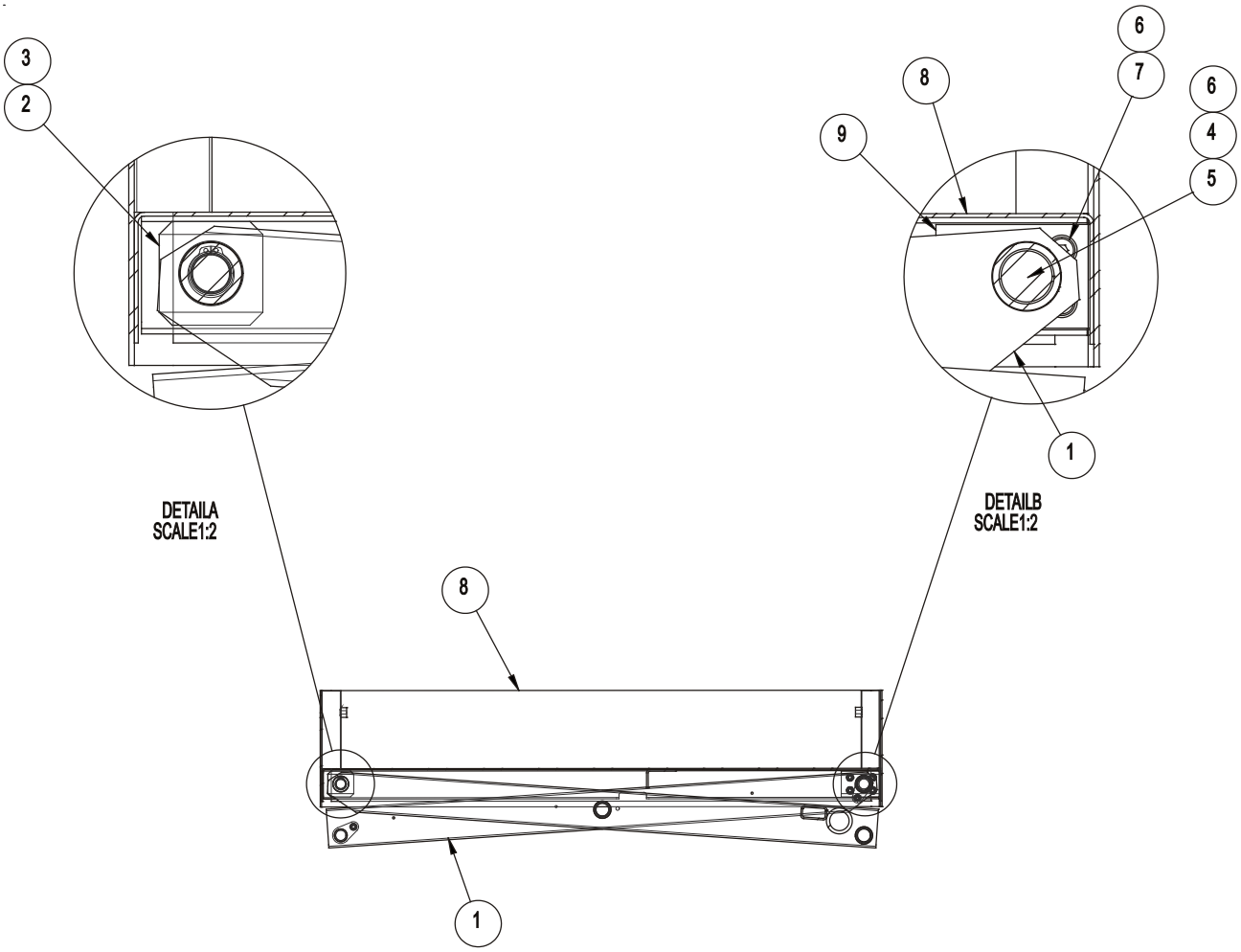
Platform

Item	Part No.	Qty.	Description
1	0120756	1	WLDMT DECK PUSH
2	0120772	2	BLOCK
3	5563235	8	SHCS M8 X 1.25 X 50 G8.8 ISO 4762 BLACK OXIDE
4	5560727	10	NUT HEX LKG M8-1.25
5	0120774	2	WELDMENT PIN
6	5560595	2	SHCS M8 X 1.25 X 20 G8.8 ISO 4762 BLACK OXIDE
7	562386	1	COMPARTMENT LITERATURE 8.5X11
8	5563251	4	M8 THREADED KNOB
9	0120492-D	1	WLDMT, HAND RAIL, LEFT
10	0120489-D	1	WLDMT, HAND RAIL, FRONT
11	0120505-D	2	WLDMT, SWING GATE
12	0120498-D	1	WLDMT, HAND RAIL, RIGHT
13	0120825	2	PIN, SALOON DOOR
14	5592001	4	RETAINING RING, EXTERNAL, .625 DIA, BASIC
15	5563259	4	SHCS M8 X 1.25 X 70 G8.8 ISO 4762 ZINC PLTD BRIGHT CHROMATE
16	5563256	8	METRIC ACORN NUT M8 X 1.25 ZINC PLTD
17	5569967	4	HHCS M8 X 1.25 X 16 G8.8 ISO 4017 DIN 933
18	5560355	4	WSHR LOCK M8
19	0120731	4	BUMPER
20	0120845	1	SAFETY BELT MOUNT
21	5560364	4	M10 FLAT WASHER DIN 125
22	5560356	2	WSHR LOCK M10 DIN 127
23	5563257	2	METRIC ACORN NUT M10 X 1.5 ZINC PLTD
24	5560595	2	SHCS M10 X 1.5 X 20 G8.8 ISO 4762 BLACK OXIDE

Platform

Platform Mounting

Item	Part No.	Qty.	Description
1		1	SCISSOR STACK – REFERENCE
2	0120612	2	SLIDE BLOCK
3	5592007	2	SNAP RING EXT 20MM
4	5560595	2	SHCS M8 X 1.25 X 20 G8.8 ISO4762 BLACK OXIDE
5	0120774	2	PIN
6	5560727	10	NUT HEX LKG M8-1.25
7	5563235	8	SHCS M8 X 1.25 X 50 G8.8 ISO4762 BLACK OXIDE
8		1	PLATFORM –REFERENCE
9	0120772	2	BLOCK

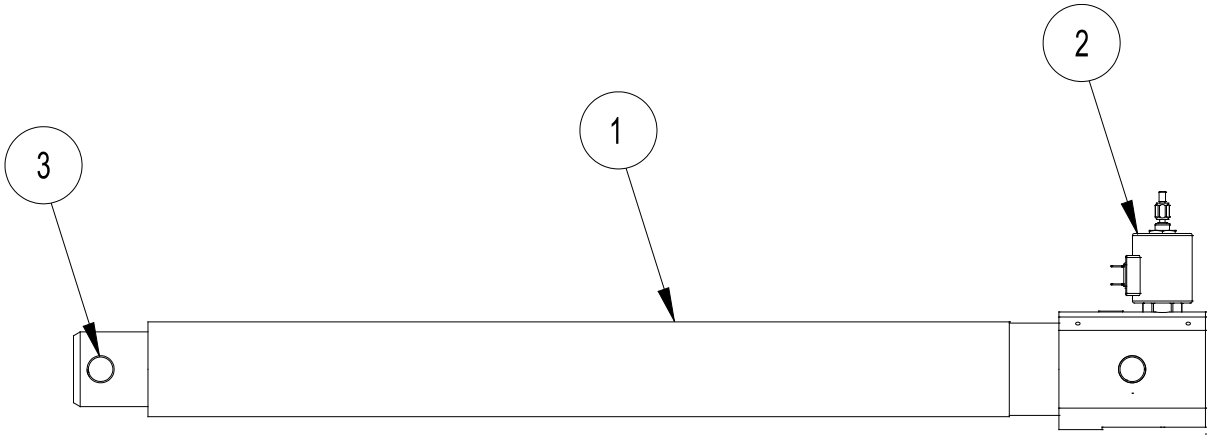


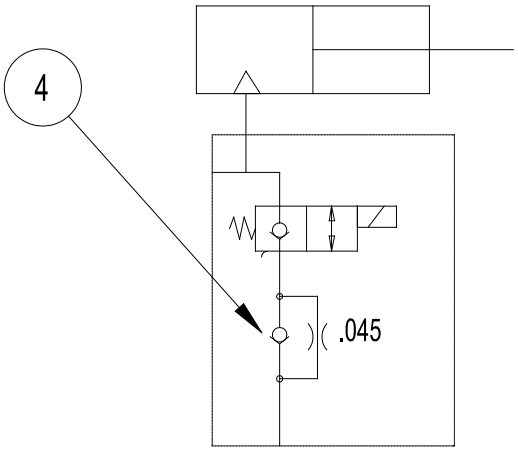
Platform Mounting

0120874

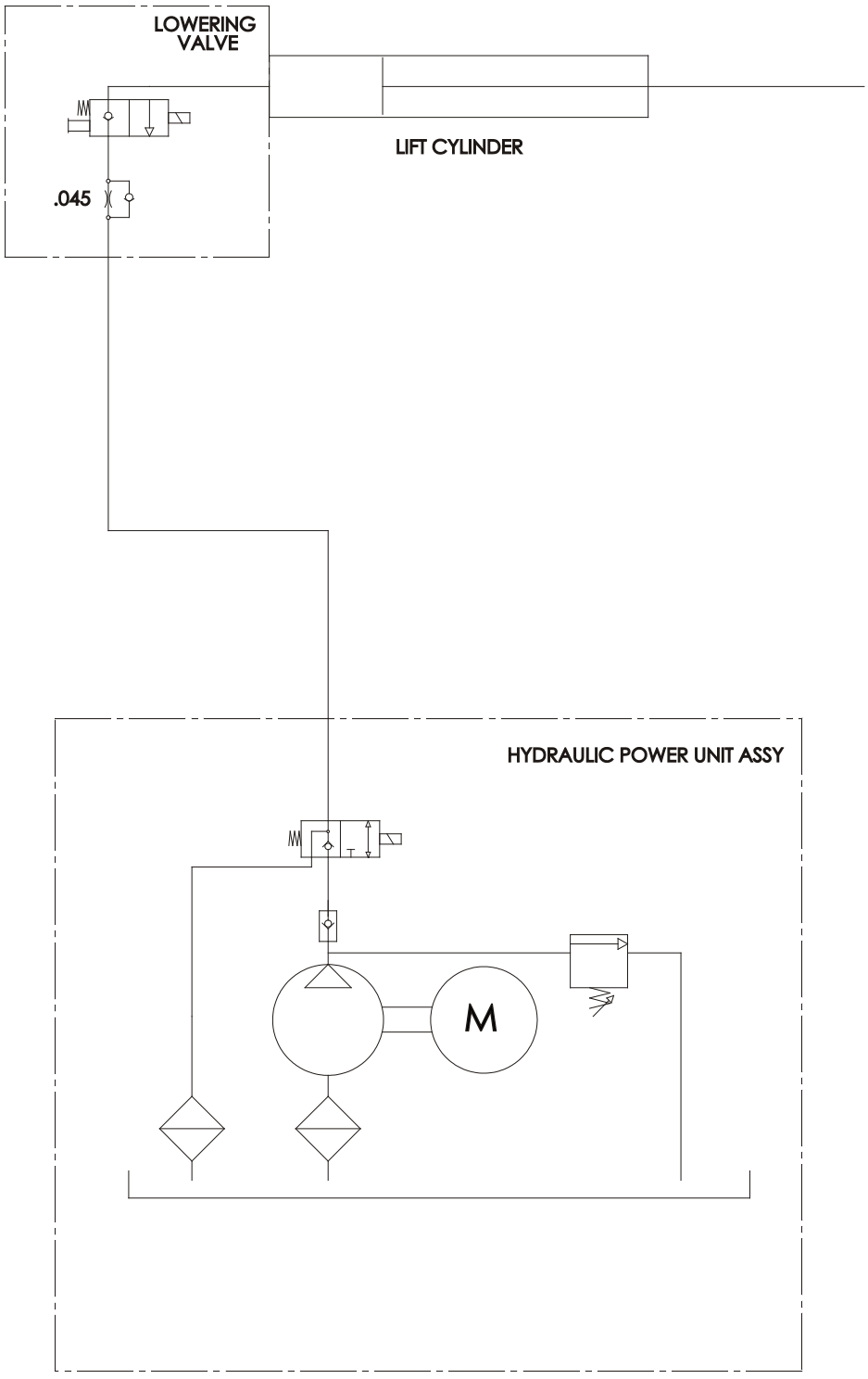
Lift Cylinder

Item	Part No.	Qty.	Description
1	0120658	1	CYLINDER, LIFT PUSH8 INCLUDES ITEMS 2 AND 3
	0120811	1	CYLINDER, LIFT PUSH10 INCLUDES ITEMS 2 AND 3
2	6019243	1	SOLENOID VALVE, 12 VOLT DC
	565666	1	SEAL REPAIR KIT
	6018024	1	CARTRIDGE WITH SEALS
	3040446	1	SOLENIOD COIL
3	2509722	4	BEARING
4	6091348	1	CHECK VALVE, .045 ORIFICE





HYDRAULIC SCHEMATIC

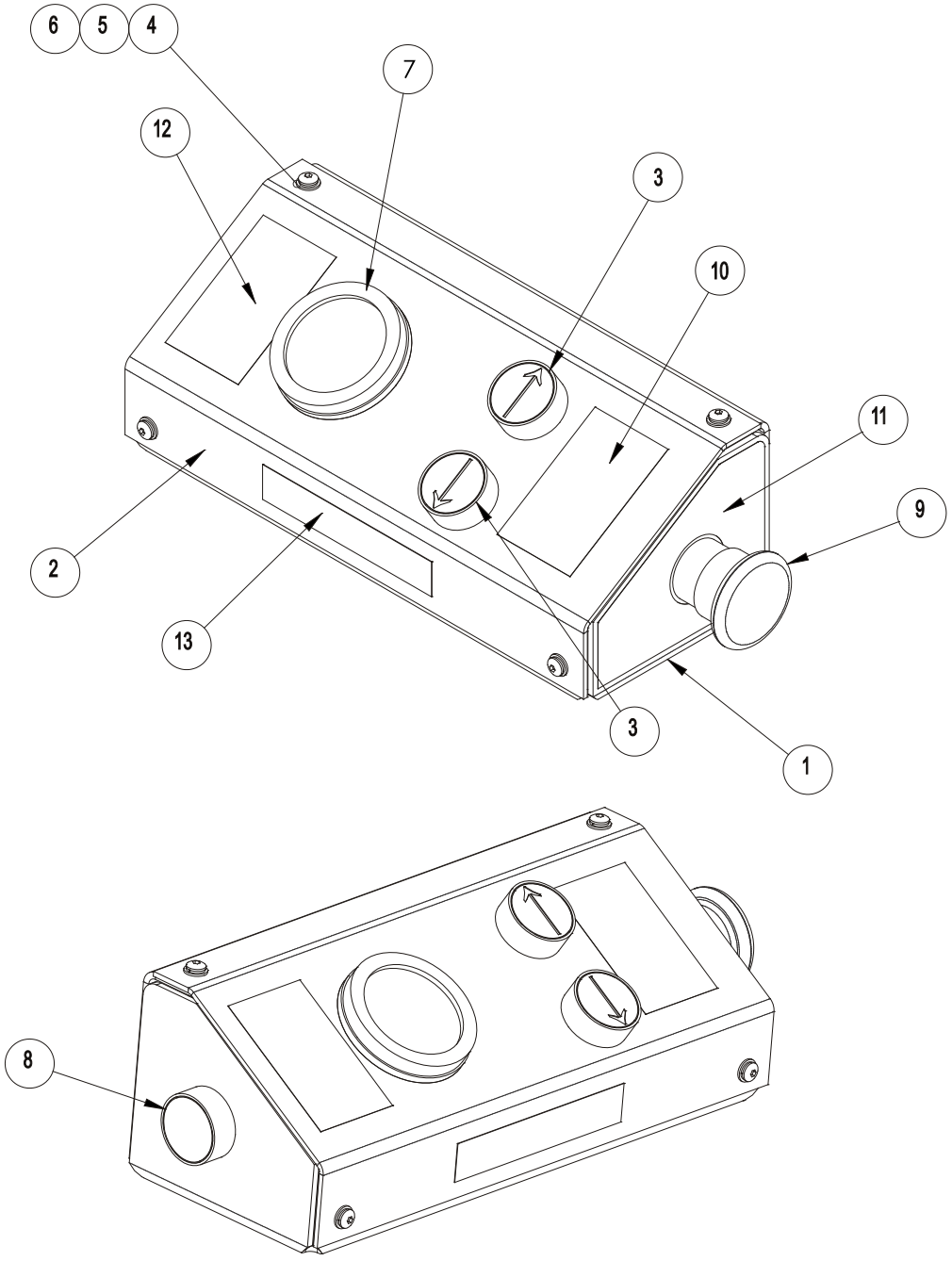


Hydraulic Schematic

0120847

Upper Control Box

Item	Part No.	Qty.	Description
1	0120821	1	CONTROL PANEL BOX
2	0120822	1	CONTROL PANEL FACE
3	0120803	2	RAISE PUSH BUTTON
4	5569887	4	M4 FLAT WASHER DIN 125
5	5563245	4	WASHER LOCK M4 DIN 127
6	5563270	4	SBHCS M4 X 0.7 X 12 GR10.9 BLK FINISH
7	487696	1	BATTERY GAUGE
8	0120805	1	ENABEL PUSH BUTTON
9	3028810	1	EMERGENCY STOP BUTTON
10	0120854	1	DECAL PLATFORM UP/DOWN
11	0120855	1	DECAL EMERGENCY STOP
12	0120856	1	DECAL BATTERY CHARGE INDICATOR
13	7030027	1	DECAL ENSURE BRAKES ARE LOCKED

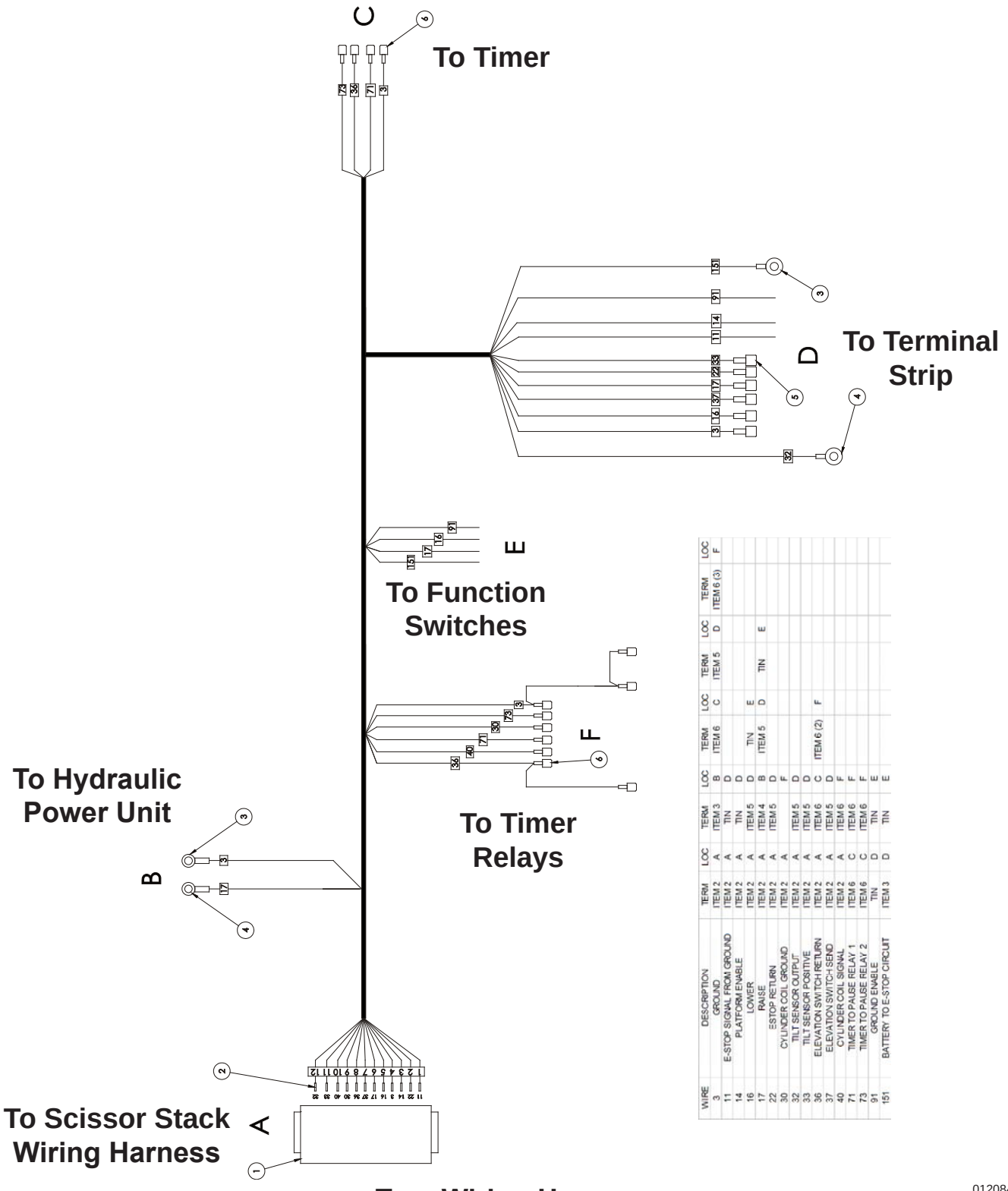


0120840

Upper Control Box

Tray Wiring Harness

Item	Part No.	Qty.	Description
1	3049848	1	CONN 12 RECEP DEUTSCH
2	3049894	12	PIN
3	3049947	2	TERMINAL 313I 22/18
4	3044146	2	TERMINAL R10I 22/18
5	3046972	6	TERMINAL FEM188I 22/18
6	3040047	13	TERMINAL FEM250 22/18

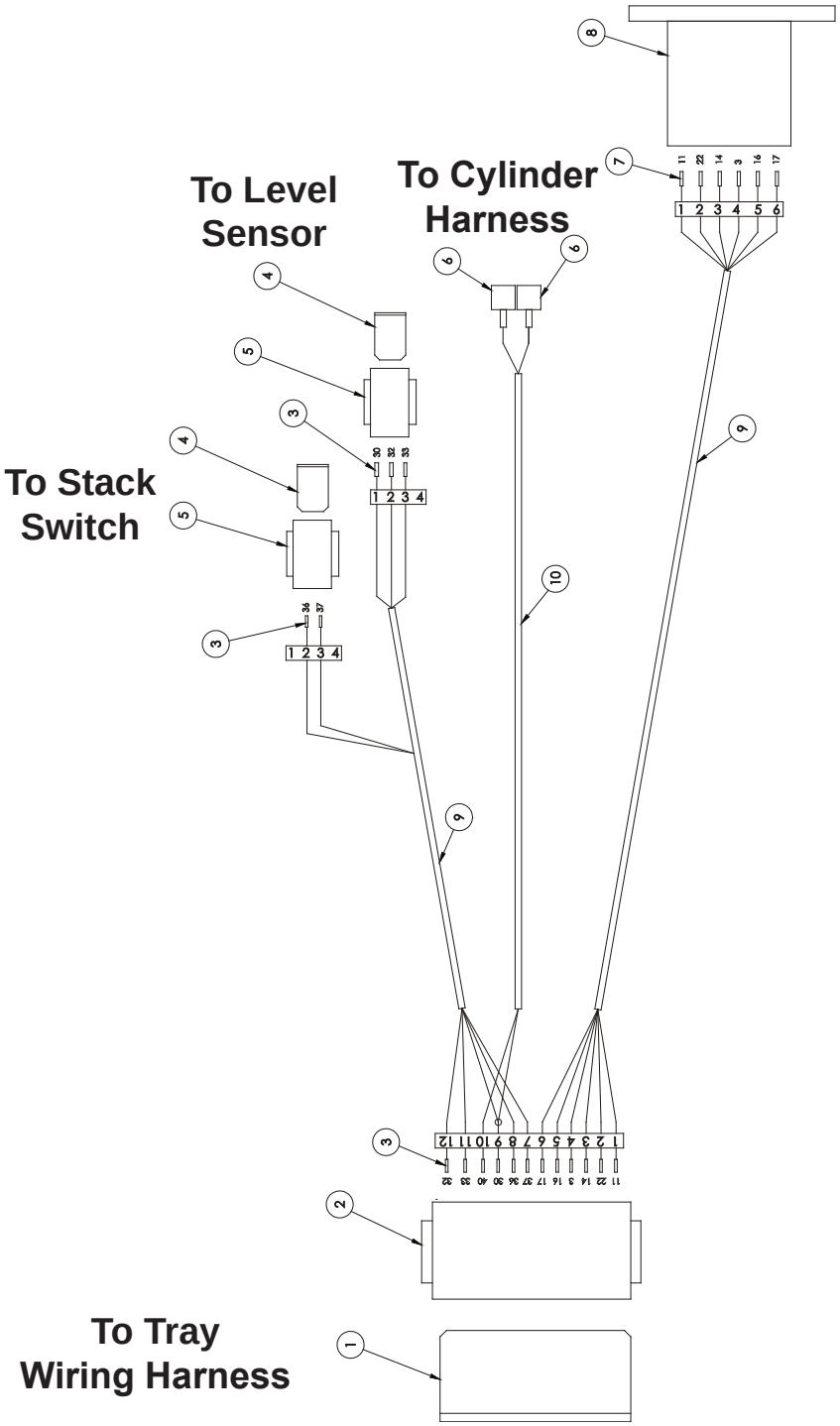

C
To Timer
D
To Terminal Strip
E
To Function Switches
F
To Timer Relays
To Hydraulic Power Unit
B
To Scissor Stack Wiring Harness
A
WIRE | DESCRIPTION | TERM | LOC | TERM | LOC | TERM | LOC | TERM | LOC | TERM | LOC
3 | GROUND | ITEM 2 | A | ITEM 3 | B | ITEM 6 | C | ITEM 5 | D | ITEM 6 (3) | F
11 | E-STOP SIGNAL FROM GROUND | ITEM 2 | A | TIN | D
14 | PLATFORM ENABLE | ITEM 2 | A | TIN | D
16 | LOWER | ITEM 2 | A | ITEM 5 | D | TIN | E | TIN | E
17 | RAISE | ITEM 2 | A | ITEM 4 | B | ITEM 5 | D
22 | ESTOP RETURN | ITEM 2 | A | ITEM 5 | D
30 | CYLINDER COIL GROUND | ITEM 2 | A | | F
32 | TILT SENSOR OUTPUT | ITEM 2 | A | ITEM 5 | D
33 | TILT SENSOR POSITIVE | ITEM 2 | A | ITEM 5 | D | ITEM 6 | C | ITEM 6 (2) | F
36 | ELEVATION SWITCH RETURN | ITEM 2 | A | ITEM 6 | C
37 | ELEVATION SWITCH SEND | ITEM 2 | A | ITEM 5 | D
40 | CYLINDER COIL SIGNAL | ITEM 2 | A | ITEM 6 | F
71 | TIMER TO PULSE RELAY 1 | ITEM 6 | C | ITEM 6 | F
73 | TIMER TO PULSE RELAY 2 | ITEM 6 | C | ITEM 6 | F
91 | GROUND ENABLE | TIN | D | TIN | E
151 | BATTERY TO E-STOP CIRCUIT | ITEM 3 | D | TIN | E

0120841

Tray Wiring Harness

Scissor Stack Wiring Harness

Item	Part No.	Qty.	Description
1	3049814	1	LOCK WEDGE 12 PIN DEUTSCH
2	3049813	1	CONN 12 PIN DEUTSCH PLUG
3	3049895	17	SOCKET CONTACT -20 DEUTSCH
4	3049890	2	LOCK WEDGE 4 PIN
5	3049888	2	PLUG 4 PIN DEUTSCH
6	3040047	2	TERMINAL FEM250 22/18
7	3029894	6	PIN -20 DCH
8	3220152	1	RECEPTACLE DEUTSCH
9		200 IN	CABLE 6 COND 20 GA
10	3011820	85 IN	CABLE 2 COND 18 GA

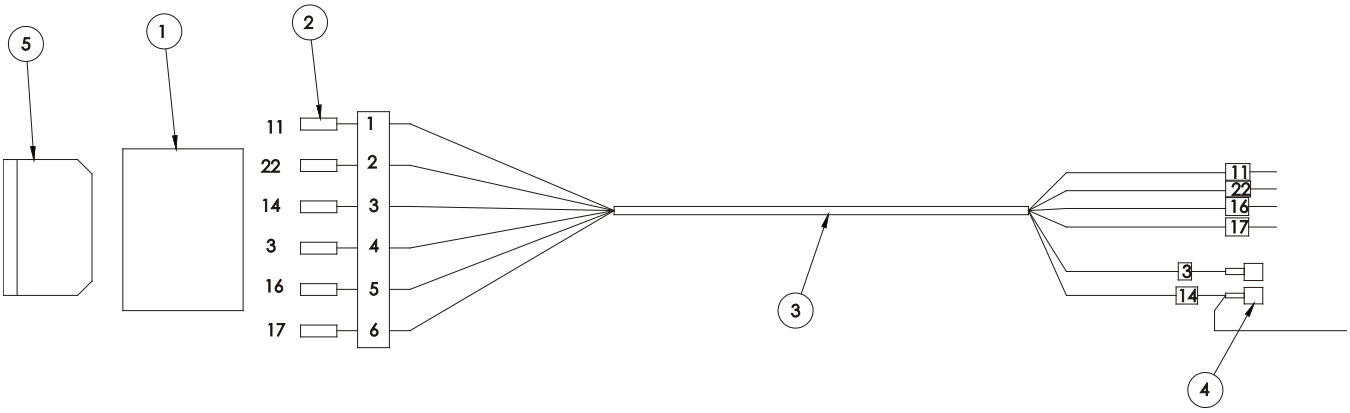


0120838

Scissor Stack Wiring Harness

Upper Control Box Wiring Harness

Item	Part No.	Qty.	Description
1	3220153	1	PLUG 6 PIN DEUTSCH
2	3049895	6	SOCKET CONTACT -20 DEUTSCH
3		61 IN	CABLE 6 COND 20 GA
4	3040047	2	TERMINAL FEM250 22/18
5	3049860	1	LOCK WEDGE 6 PIN



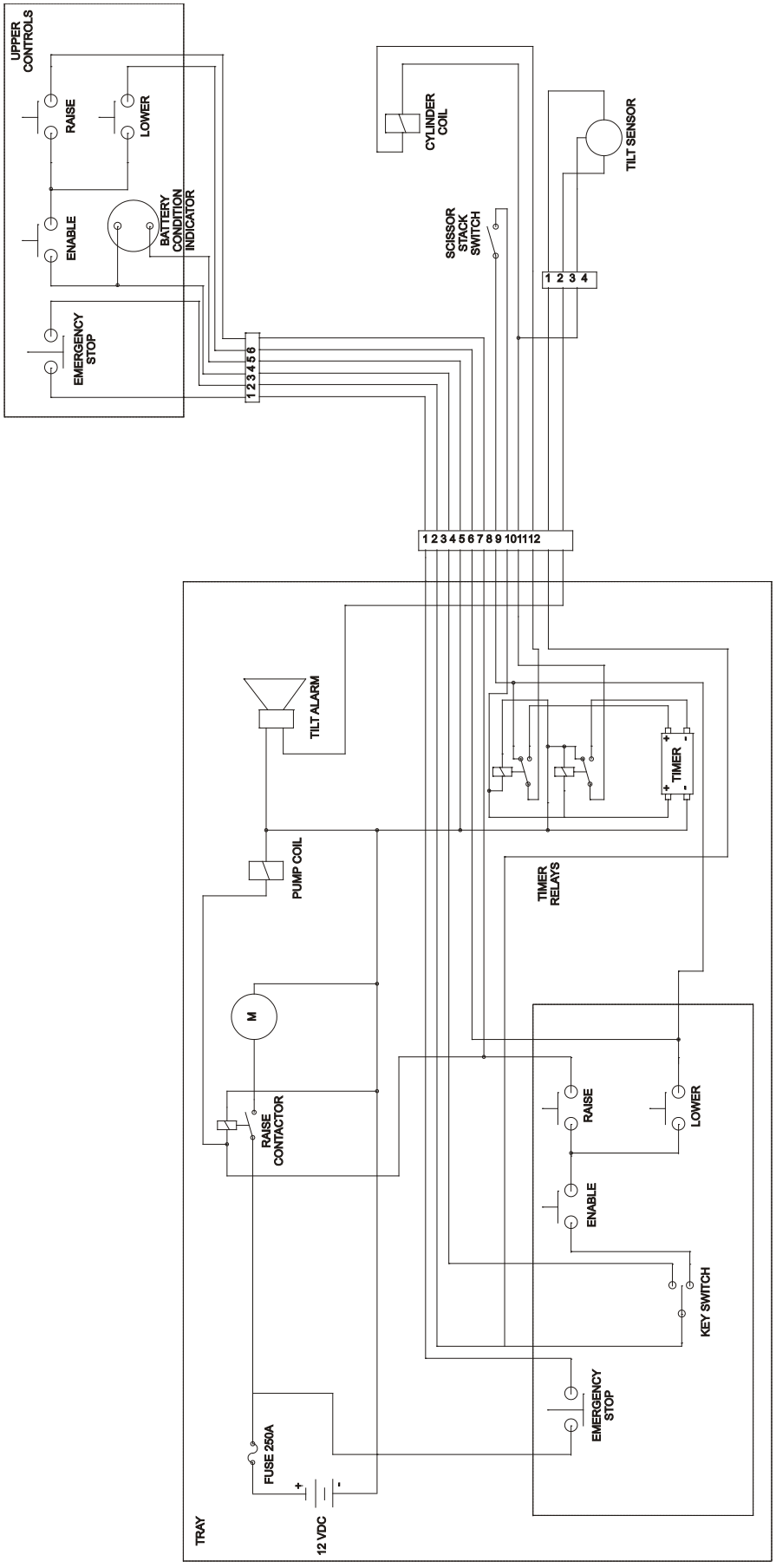
To Scissor Stack Wiring Harness

To Upper Control Box

Upper Control Box Wiring Harness

0120842

Electrical Schematic

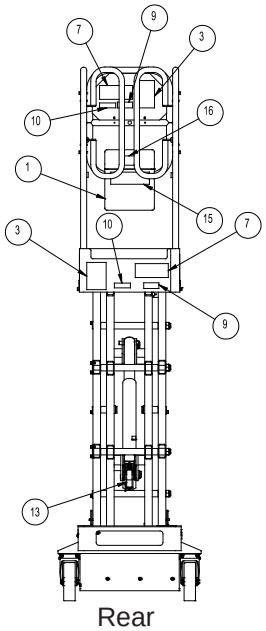


0120836

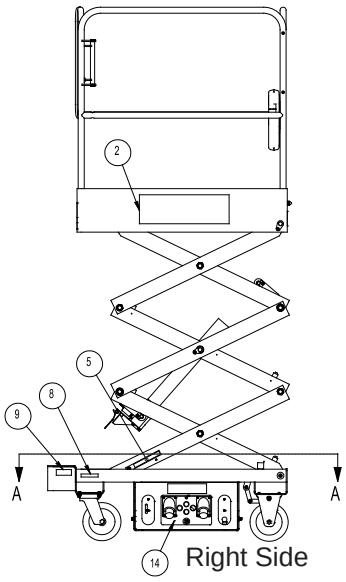
Electrical Schematic

Placards and Decals

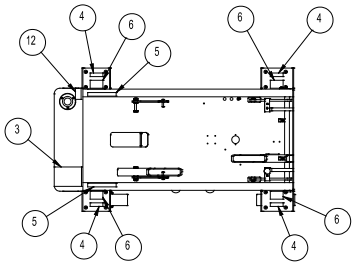
Item	Part No.	Qty.	Description
1	562368	1	COMPARTMENT LITERATURE
2	0120769	2	DECAL POPUP
3	7030035	3	DECAL DO NOT MOVE WHEN ELEVATED
4	7030026	4	DECAL FORKLIFT POINT
5	7030018	4	DECAL MAINTENANCE PROP
6	7030016	4	DECAL MAXIMUM WHEEL LOAD
7	7030034	2	DECAL SAFE WORKING LOAD
8	7030027	2	DECAL ENSURE BRAKES ARE LOCKED
9	7030017	4	DECAL INDOOR USE ONLY
10	7030019	2	DECAL FULLY READ OPERATORS MANUAL
11	0120760	1	DECAL PUSH8
	0120762	1	DECAL PUSH10
12	7030022	1	DECAL MAXIMUM CHASSIS INCLINATION
13	0361533	1	DECAL EMERGENCY BLEED DOWN
14	512257-000	1	DECAL LOWER CONTROLS
15	0073043	1	DECAL OPERATING INFORMATION INSIDE
16	0073224	1	DECAL MANUAL REORDER



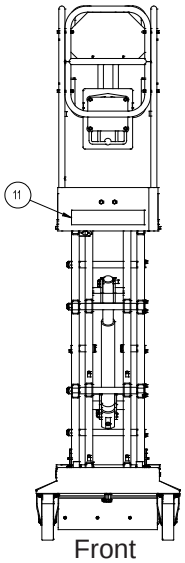
Rear



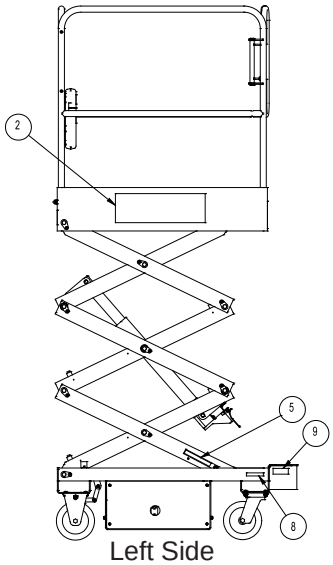
Right Side



Section A-A
Top View of Chassis



Front



Left Side

For Upper Control decals refer to
Upper Control Box Page 19.

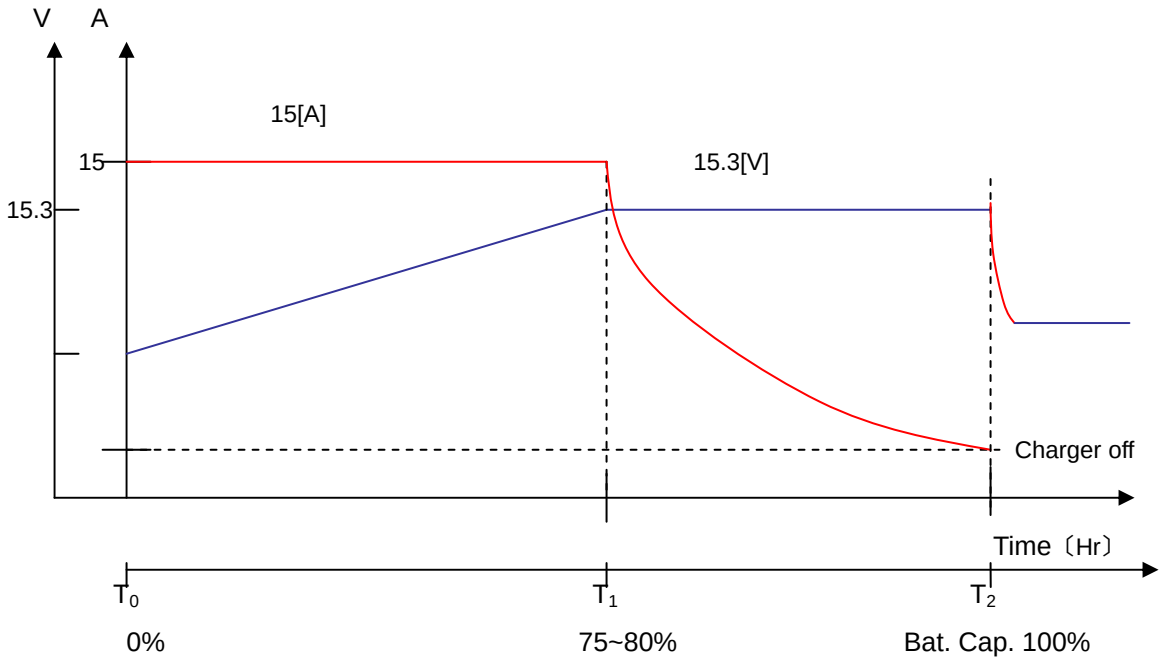
0120decal

Placards and Decals

Specifications for HB250-12

Nominal Output Power / Nominal Voltage		230Watt / 12Volt
AC Input	Input Voltage	85~138Vac / 195~264Vac (Auto-Selectable)
	Frequency	50/60 Hz
	Max. Input Current	4A-rms at 85Vac, ~ 1.8A-rms at 195Vac
	AC Inrush Current	No damage
DC Output	Charging Algorithm	Two Stage Charging Cycle for Flooded Lead-acid Batteries, Constant Current (Bulk)->Constant Voltage (Absorption) ->Shut off
	Output Voltage	15.3 Vdc during Constant Voltage
	Output Current	15.0 Adc_max during Constant Current
	Current Ripple	Less than 15%, measured peak to peak
Efficiency		80% minimum
Maximum External Surface Temperature		Less than 65 ºC
Vibration		6G from 40Hz to 200Hz for 1Hr in X, Y, & Z planes
Sealing		Water Proof (IP64), direct water spray for 10 seconds, Convection Cooling
Dimensions & Weight		204(L)*152(W)*79(H) mm & 2.2kg
Protective Function		Over-current protection, Over-temperature protection, Short-circuit protection, Reverse polarity protection, Output current limit, Output open Warning
Additional Features		Charging batteries discharged to one volt, Auto-Restart Charging(12.5V), Bad cell Discrimination(18Hour)
LED Display	Charging Progress	Bulk => Absorption => Complete, Refer to Table 1
	Fault & Warning	All LED'S blink simultaneously when fault or warning occurs.
Input Connector		IEC320 Inlet
Output Lines		2 conductor pigtail, 12 AWG longer than 1m, tinned ends, B+: White, B-: Black,
Regulation & Standard Marking		UL-1564 / CSA-C22.2-107.2 / CE

I. Battery Charging Cycle



1) At bulk mode from To to T1, approximately 80% of battery capacity is returned.

2) At absorption mode from T1 to T2, approximately 20% of battery capacity is returned.

3) At float mode afterT2, charger is turned off. If the voltage drops due to self-discharge during storage, the charger will re-start and complete a charge cycle.

Table 1. Charging State & LED Display

LED / Charging State	50%	75%	100%
0 to 50% charged	Blinking	Off	Off
50% to 75% charged	On	Blinking	Off
75% to 100% charged	On	On	Blinking
100% charged	On	On	On
Abnormal Cycle	Off	Off	Blinking

Abnormal cycle means the charge cycle is not finished within specific period.

II. Protective Function & Alarm Display by LED

▸ 3 LEDS BLINK ONCE SIMULTANEOUSLY: OUTPUT CONNECTION ERROR.

-> CHECK THE BATTERY AND CHARGER CONNECTION AND CORRECT

▸ 3 LEDS BLINK THREE TIMES SIMULTANEOUSLY: CHARGER IS OVERHEATED.

-> NO ACTION REQUIRED. WHEN THE CHARGER COOLS, CHARGING WILL RE-START AUTOMATICALLY.

▸ 3 LEDS BLINKS FOUR TIMES SIMULTANEOUSLY: INPUT OR OUTPUT OVER CURRENT.

-> NO ACTION REQUIRED, CHARGER WILL CORRECT AND RE-START AUTOMATICALLY.

- 100% LED BLINKS WHILE 50% AND 75% LED'S ARE "OFF"

->THE 18-HOUR TIMER HAS ELAPSED AND STOPPED BATTERY CHARGING. BATTERIES ARE UNABLE TO COMPLETE CONSTANT CURRENT AND CONSTANT VOLTAGE CHARGE CYCLE.

1) Batteries are very extremely discharged. Unplug and then plug-in charger to re-start charge cycle to complete charging.

2) Batteries are weak, old, or have one or more bad cells. Batteries will still charge but capacity will be reduced. Replace batteries.

3) Battery pack is too large compared to charger.

Local Distributor:

Lokaler Vertiebshändler:

Distributeur local:

El Distribuidor local:

ll Distributore locale:

USA

Phone: 1 (785) 989 3000
Toll Free: 1 (800) 255 0317
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